

Arizona



Maternal and Child Health Needs Assessment



2000





Public Health ServicesBureau of Community & Family Health Services



Jane Dee Hull, Governor State of Arizona

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The mission of the Arizona Department of Health Services is: Setting the standard for personal and community health through direct care delivery, science, public policy and leadership.

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JANE DEE HULL, GOVERNOR CATHERINE R. EDEN, DIRECTOR

To My Fellow Arizonans and Other Readers:

I am pleased to present the <u>Arizona Maternal and Child Health Needs Assessment 2000</u>, our comprehensive statewide assessment designed to help Arizona anticipate and meet the needs of families. This needs assessment builds on the findings of recent studies and on the data from our registries. Our goal is to improve the health of families. The Arizona Department of Health Services is already using this assessment as a basis for more detailed analyses of high priority issues.

I sincerely hope that you find this document useful. I also urge you to share with us your ideas to make these efforts of even greater value. Your interest and action to improve the health of Arizonans are important to the Arizona Department of Health Services, the people and organizations we serve.

Sincerely,

Catherine R.. Eden Director

CRE:ENV

Enclosure

ARIZONA MATERNAL AND CHILD HEALTH NEEDS ASSESSMENT 2000

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A maternal child health needs assessment is conducted every five years by the Arizona Department of Health Services Bureau of Community and Family Health Services (CFHS). It draws on data from several sources to compile a profile of the maternal and child population in terms of health status, the health care system and health services utilization. The needs assessment is useful in helping CFHS to target its resources effectively and guide its strategic planning process. Ten priority needs for the state of Arizona were identified:

- Fewer babies with low birth weight.
- Health insurance for all children.
- Universal newborn screening.
- Decreased childhood mortality due to preventable injury.
- Integration of care for children with special health care needs.
- Comprehensive health insurance for children with special health care needs.
- Increased safety for our children.
- Adequate dental services.
- Universal mental health services for children.
- Access to needed health care services and preventive health care for women of childbearing age.

Underlying the priority needs are some common themes. Too often, women and children go without needed health care services. Barriers to primary, specialty and preventive care come in several varieties: geographical, financial, and bureaucratic. A significant minority of Arizona residents lack health insurance and are unable to afford the cost of needed health care. When women and children go without preventive and primary health care services, conditions are frequently exacerbated and in the end are more expensive to treat.

There are many programs offered by CFHS in conjunction with its community partners to address identified needs and their underlying causes. Infrastructure development programs focus on making relevant information available to the provider community and developing standards and quality improvement initiatives. Population-based programs provide health screening services which identify problems which may hinder a child's development and may even pose health risks to the larger community. Enabling services assist in linking people with available services through outreach and facilitating enrollment for public assistance. Finally, direct services are provided when gaps in care exist. While progress has been made in many areas, much work remains to be done.

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INTRODUCTION-

Every five years the Bureau of Community and Family Health Services conducts a maternal and child health needs assessment. This document represents the most recent effort. The beginning point for this assessment was a description of the current state of health and the health care system. Descriptive data on the current state of mortality and morbidity in Arizona were gathered and need was assessed in three ways when data were relevant and available:

- Historical trends within Arizona
- Comparison of Arizona status to the U.S.
- Comparison of Arizona status to defined standards of care.

Need was determined through identifying trends within Arizona moving in an undesirable direction, deviating from national statistics in an undesirable direction, or falling short of a defined standard of care. When possible, disparities in health and health care within the state were examined to identify strategic opportunities to improve the health status and health care of segments of the population at higher risk. In addition to mortality and morbidity data, survey data were examined to identify unmet need, barriers to care and population risk factors. Finally, less formalized input from program managers, health experts in the community and families was taken into account in evaluating need.

The remainder of this document is organized as follows: first overview of the state and the health care system. Subsequent sections evaluate the health status and related issues for women of childbearing years, the perinatal period, and children. Following these sections is a summary of identified needs and ways that they are addressed by the Bureau of Community and Family Health Services. Appendix A contains a summary of performance and outcome measures which illustrate Arizona's progress in relation to targets as well as available data on historical trends in Arizona and the United States and other relevant subgroup comparisons. Appendix K describes data sources and provides information related to their strengths and limitations.

OVERVIEW OF THE STATE —

Arizona continues to be one of the fastest growing states in the U.S. The Arizona Department of Commerce reports that Arizona is the second fastest growing state in the nation. Arizona's estimated 1998 population was 4,722,097. The state population grew by approximately 775,000, an increase of 19.6 percent during the 1990s. The total population growth within in the U.S. from 1993 to 1998 was only approximately five percent.

The table below shows a significant population increase in all maternal and child health (MCH) subgroups from 1993 to 1998.

Table 1. Maternal and Child Health Target Groups									
Group	1993	1998	Percent Change	Percent of Total Population 1998					
Total: All People/All Ages	3,946,974	4,722,097	+19.64						
MCH Subgroups									
Women of Childbearing Years (15-44)	882,148	1,010,667	+14.57	21.4					
Pregnant Women	81,445	93,148	+14.37	2.0					
Births	69,037	77,940	+12.90						
Infants Under 1 Year	69,312	73,533	+6.09	1.56					
Children and Adolescents (1-19)	1,110,486	1,312,241	+18.17	27.79					
Children (1 - 14)	854,976	984,314	+15.13	20.85					
Adolescents (15 - 19)	255,510	327,927	+28.34	6.94					

Despite its reputation as a retirement center, Arizona's population is slightly younger than the national average. The state's median age is 34.4 while the nation's is 34.9 years. The median age for American Indians is relatively younger at 27 years, compared to the U.S. population. The proportion of people younger than 25, as well as those over 65, is roughly the same as the United States as a whole. (www.azcommerce.com, 2000)

There are 15 counties in Arizona, each of which has seen a significant growth in total population from 1993 to 1998. Seventy-seven percent of the state's population reside in either Maricopa or Pima Counties. Maricopa County, with the largest population, experienced a growth of 22.5 percent between 1993 and 1998, with a growth of 77,674 during 1999 alone. Only Los Angeles County growth outpaced Maricopa County in 1999.

RACIAL/ETHNIC COMPOSITION

There are 21 American Indian recognized tribes in Arizona. These tribes are located across the state and even cross between state and country lines such as T'OdonoOdham between Arizona and Mexico, or Navajo between Arizona, New Mexico and Colorado.

Arizona is one of four states that borders Mexico; four of the 15 counties border Sonora, Mexico. There is an increasing population of Hispanic heritage, the majority reporting that they are of Mexican Based on the findings descent. from the Children 2000 survey, the primary caregiver reported that for 87 percent of children in Arizona, English was the primary language spoken in their home, while 12 percent primarily spoke Spanish. Less than one percent each spoke an American Indian or Asian language or another language. Figure 1 displays the composition

Composition
of Arizona and United States

100
80
Arizona
United States

United States

White Black Am. Indian Asian Hispanic Origin
Source: U.S. Department of Commerce, Bureau of Census

Figure 1. Racial and Ethnic

of the population of Arizona compared to the entire United States.

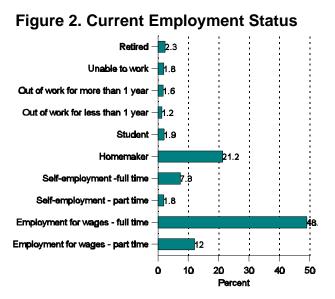
According to the Immigration and Naturalization Service, approximately five million undocumented immigrants lived in the U.S. in October 1996 and comprised 1.9 percent of the total U.S. population. The largest estimated numbers of undocumented immigrants reside in California (2,000,000), Texas (700,000), New York (540,000), Florida (350,000), Illinois (290,000), New Jersey (135,000) and Arizona (115,000). Nearly 2.7 million undocumented immigrants from Mexico established residence in the U.S., comprising 54 percent of the total undocumented population.

According to the U.S. Department of Justice, the southern Arizona Douglas-Naco area is the busiest illegal immigration corridor in Arizona. The public health concern of this illegal immigration is the risk for injury and death from exposure to the intense desert sun and unavailability of water while walking across the desert.

Socio-Economic

The Arizona Department of Economic Security Research Administration expects more than 127,000 jobs to be added over the 1999-2000 period within Arizona. All industries, with the exception of mining, are expected to expand their workforces. Arizona's main economic sectors include services, trade and manufacturing. According to the U.S. Bureau of Labor Statistics, the

unemployment rate in Arizona of percent was well below the national unemployment rate of 4.5 percent in 1998. The Phoenix metropolitan area specifically had an unemployment rate of 2.7 percent. However, 88 percent of fastest growing jobs in Arizona pay below a livable wage. The U.S. average per capita personal income was \$26,482 in 1998 compared to \$23,152 in Arizona (U.S. Bureau of Economic Analysis). Arizona ranked 36th among the 50 states with a per personal disposable income of \$19,777 in 1998 (8.9)



percent below the national average of \$22,424). Figure 2 shows the current employment status of the primary caregiver of children in Arizona according to a recent telephone survey (Children 2000).

Based on 1998 U.S. Census estimates, 16.6 percent of Arizona's population, or 812,000 persons have incomes below the federal poverty line (a decrease of 3.9 percent since 1996). Nationally 18.3 percent of children under the age of 18 years lived in poverty relative to 25.4 percent of Arizona children in 1998. The national child poverty rate was significantly below 20 percent for the first time since 1980. However, children continue to constitute a large proportion of the poor population (39 percent) while representing only 26 percent of the total population.

Indicators of poor economic conditions are evident for American Indians in the last U.S. census. Nearly 31 percent of American Indians lived in poverty compared to 13 percent of the U.S. population as a whole. In addition, the 1989 median household income among American Indians was \$19,900, well below the U.S. average of \$30,056 (U.S. Census, 1995).

Education is an important component of our well-being. Arizona has nearly 250 post-secondary institutions operating within the state, including three state

universities, 19 community colleges, roughly 20 accredited degree-granting private colleges and universities, and approximately 180 trade and technical schools offering programs such as business, cosmetology, health, flying and technology training" (www.azcommerce.com). Based on statistics from the Arizona Department of Education, there were 847,762 students enrolled during the school year of 1999. However, Arizona has one of the highest dropout rates in the nation. While the national average dropout rate has remained around five percent for the past ten years, Arizona's dropout rate has been rising. During the 1998/99 school year, the dropout rate was 12.2 percent in high school and 2.7 percent in the seventh and eighth grade.

JUVENILE DELINQUENCY

One in five arrests by U.S. law enforcement agencies in 1997 involved a juvenile, representing approximately 2.8 million arrests of individuals under age 18. According to The National Longitudinal Survey of Youth 1997, an estimated eight percent of youth between the ages of 12 and 16 stated they had been arrested, 40 percent of those reported two or more arrests. A little less than a quarter (21 percent) of 16 years old who had been arrested were first arrested by the age of 12.

Nationally, the rate of serious violent crime perpetrated by juveniles is lower today than a decade ago but still remains 21 percent above the average of the 1980s. Approximately 12 percent of all murders involved at least one juvenile offender in 1997. Juvenile murders were mainly committed by males (93 percent) and by offenders 15 years of age and older (88 percent) (Juvenile Offenders and Victims: 1999 National Report).

In Arizona, data are presented for juveniles ages 8 through 17 years of age. Uniform Crime Reports divide offenses into two major classifications: Part I and Part II offenses. offenses include violent crimes such as criminal homicide. robbery and forcible rape, aggravated assault, as well as property crimes such burglary, larceny-theft, motor vehicle theft and arson. Part II offenses include a range of

offenses such as simple assaults, forgery, counterfeiting, fraud, embezzlement, stolen property and drug/liquor offenses, vandalism, weapons, sex offenses, gambling, disorderly conduct, vagrancy, curfew violations and running away.

The method of counting offenses varies with the type of crime committed, and the number of offenders does not equal the number of offenses. For multiple offenses that occur in one crime incident, only the most serious offense is counted, with the exception of arson. When arson occurs in conjunction with another Part I crime, both are counted. Figure 3 presents the rates per 1,000 juveniles for Part I and Part II Offenses from 1990 through 1998.

MOBILITY

Arizona has a rapidly growing population with a relatively high degree of mobility and sometimes homelessness. The Children 2000 survey found that primary caregivers of eight percent of children under age 21 had lived in the durrent location for less than one year, and another 12 percent had lived in the same for one to three years. Eighteen percent of primary caregivers of children under age 21 said that they had lived at their current address for less than one year and another 25 percent had lived at their current address for one to three years.

In Arizona, "homeless" means the individual has no permanent place of residence where a lease or mortgage agreement exists. Determining the number of homeless individuals is a significant challenge because they are difficult to locate and/or identify. According to the National Coalition for the Homeless (NCH) in February 1999 the national estimate of homeless individuals was 700,000 per night compared to 500,000 to 600,000 in 1998. In Arizona, according to a point-in-time survey, approximately 26,670 people are homeless on any given day.

The Arizona Department of Economic Security (DES) reported in 1999 that homeless single people are the largest group of homeless persons. There are many factors associated to homelessness, including poverty, domestic violence, substance abuse, mental illness, lack of affordable housing, decreases in public assistance, low wages and lack of affordable health care. In spite of an overall positive economic picture in the state, the large number of households earning less than a livable wage and a disproportionate rise in housing costs versus incomes points to increasing numbers of homeless persons.

The medical director of one of Arizona's medical clinics serving the homeless identified the following general healthcare issues for homeless children: lack of continuity of medical care, crisis medical care, decreased access to care, and barriers to healthcare such as transportation and lack of medical insurance. The identified acute healthcare issues of homeless children include infections, injuries and nutrition.

PROVIDERS

The state plays a large role in managing and coordinating health care services throughout Arizona. Access to health care is of great concern in Arizona due to its characteristic population settlement patterns. Arizona is mostly frontier and rural, however over 85 percent of the state's population reside in urban centers (Phoenix, Tucson, Mesa, Glendale, Tempe, Scottsdale). Rural residents must often travel significant distances to access primary care services. Regional hospital-based services are located in urban Phoenix and Tucson and require extensive time and travel.

PHYSICIANS -PCPS AND SPECIALISTS IN ARIZONA

There are 48 federally designated health professional shortage areas (HPSAs) in Arizona. Approximately 13 percent of Arizonans live in HPSAs, and an estimated nine percent are vulnerable to primary care shortages. In addition Arizona has developed its own designation system for identifying under-served areas. According to the Bureau of Health Systems Development, 71 non-metro and 20 urban state-designated shortage areas are home to an overwhelming 4,344,039 state residents (91 percent of the state population).

There are also 52 state designated Arizona Medical Under-served Areas (AzMUAs). AzMUA involves the application of an index which weights ten indicators such as providers to population ratios, travel time, percent of population below poverty and adequacy of prenatal care. Annually, the approximately twenty-five highest scoring areas are designated as under-served. Additionally, all HPSAs are automatically designated as AzMUAs. In 1998, 13 AzMUAs outside of Maricopa and Pima counties did not have a provider, and 20 AzMUAs had a population to provider ratio greater than 3,000:1. See Appendix B for specifics on the area (in square miles) and population of each of the primary care areas listed by the ADHS Bureau of Health Systems Development.

GENERAL AND SPECIAL HOSPITALS IN ARIZONA

There are 85 licensed hospitals throughout the state of Arizona. Fifty-nine of these are classified as general hospitals, three are rural general hospitals, and 23 are specialty hospitals. Among the 11,423 licensed beds 6,405 are licensed medical/surgical; 1,136 are psychiatric; 529 are rehabilitation; 902 are maternity; 579 are pediatrics; 1,022 are in intensive care units; and 60 are in coronary care units.

The Arizona Perinatal Trust endorses a voluntary program which certifies levels of perinatal care provided at each hospital in Arizona. Level I perinatal care centers provide services for low risk obstetrical patients and newborns, including cesarean deliveries. Level II facilities provide services both for low risk obstetrical patients and newborns plus selected high-risk maternity and complicated newborn patients. Level II EQ facilities provide expanded services of Level II perinatal care centers for defined maternal and neonatal problems through a process of enhanced qualifications. Level III centers provide all levels of perinatal care and treatment or referral of all perinatal and neonatal patients. See Appendix C for specifics on the distribution of hospital beds and neonatal intensive care units in each county in Arizona.

PERINATAL SYSTEM

Numerous studies have confirmed the positive benefits of prenatal care. Seeking prenatal care early is an important component of a safe pregnancy and leads to healthier babies. Arizona is the home of a unique perinatal regional system. Voluntary participation by the Arizona Department of Health Services (ADHS), the Arizona Health Care Cost Containment System (AHCCCS), the Arizona Perinatal Trust (APT), private physicians, hospitals and transport providers results in a statewide comprehensive system that is considered a model nationally.

The program was successful in reducing neonatal mortality by supporting a system of care which includes transporting critically ill newborns from rural hospitals to urban intensive care centers that are equipped to provide higher levels of nursing and medical care during acute phases of illness. Neonatologists provide 24-hour consultation and medical direction for transport. The ADHS/NICP serves as payer of last resort for families with no insurance. NICP does not pay for care except at APT certified facilities. The regional system has expanded and changed over the years. Currently services are available to all Arizona residents from the first identification of a high risk condition in pregnancy through post discharge and until the child is three years old.

Although the need for neonatal and maternal transport services and the cost of services increased throughout the years, in many cases the resources to support these services has not. The resulting strain on the system of care surfaced in many ways. For example, cost to support the financial safety net that ADHS provided to its transport contractors exceeded the budget by more than \$70,000 in fiscal year 1996.

MIDWIVES

Attendant and place of birth has changed in the US in the past few decades. In 1997, 90 percent of births were attended by physicians but this has decreased from 96 percent in 1989. The number and proportion of midwife attended births increased from 3.7 percent to 7 percent during the same period. Certified nurse midwives (CNM) comprise the majority of growth in the number of midwife-attended births. According to the National Center for Vital Statistics, the number of births attended by CNM's increased from 90 percent of midwife attended births in 1989 to 95 percent in 1997. Midwives other than CNMs were more likely to attend births in residences which accounted for 60 percent of births they attended in 1997 compared to 53 percent in 1989. Non-certified midwife-attended births in hospitals also increased from 17 percent to 20 percent during this time.

Although midwifery is a recognized alternative to the medical model of prenatal care, it is faced with a number of challenges. The medical community is not supportive of midwifery as a model of care. Hospitals that admit women and babies who received midwifery services, use the same protocols as if the women had not received any prenatal care and most insurance plans do not cover midwifery services. AHCCCS rules allow coverage for midwife services, but none of the AHCCCS-contracted health plans select them as providers. In addition, the emergency medical system presents challenges related to transport and the level of care that is needed to assist with problematic deliveries.

Indian Health Services (IHS)

Based on the 2000 population estimates there are 259,488 American Indians living in Arizona, with 50,276 living in the Phoenix metropolitan area. Although four-fifths of the state is considered geographically rural, only 18 percent of the population lives in these rural areas. Many of these rural areas are home to 21 of the 23 federally recognized American Indian Tribes of Arizona. To serve these population there are three Indian Health Service Areas: Phoenix Area, which serves mainly Arizona residents but also provides services to the state of Utah and Nevada; Tucson Area, which provide services for the Tribes located in the south of Arizona; and Navajo Area, which serves mainly northern Arizona residents but also provides services to residents of New Mexico and Utah.

Comprehensive health care is provided through inpatient, outpatient, contract, and community health programs to American Indians through their service area. One of the on-going challenges that they confront is to find experienced health professionals who are able to assume leadership roles in the future development of their work.

HEALTH INSURANCE

Health care in Arizona has been delivered through managed care delivery systems since the early 1980s. The managed care system effectively meets the needs of most Arizona residents. Access to care has presented challenges to those living in rural areas and to those with special health care needs. The state has a multitude of approaches to address these issues.

Lack of health insurance coverage is a major barrier to accessing health care. Approximately a quarter of Arizonans (1,159,000) are uninsured, and 22 percent are considered vulnerable to becoming uninsured (Child Health USA, 1999). Arizona ranks next to last of states and the District of Columbia in terms of the percent of children without health insurance.

According to the Children's Action Alliance, there are three primary reasons the number of uninsured continues to climb: 1) On a national level, employmentbased dependent health insurance has been steadily declining. employment-based insurance was the single greatest contributing factor in the decline in the number of children with health insurance. approximately 90 percent of uninsured children live with an employed main wage earner. 2) AHCCCS eligibility requirements for children are more stringent than requirements in other states. 3) There is a large number of children eligible for Medicaid but not enrolled. At least one-third of the children younger than eleven in Arizona who are income eligible for AHCCCS are not in the program. A recent study by Families USA charged that many Medicaid recipients mistakenly lost their benefits due to errors in implementation of the 1996 welfare reform law. These former recipients still qualified under their new low salaries. In July 2000 the state was scheduled to begin a three-year \$5.3 million campaign to make people aware of the different ways to qualify for Medicaid and reinstate those wrongly cut from the program.1

Children without health insurance are less likely to have a usual source of health care and often delay seeking care. A special report by the Flinn Foundation in 1995 found two of every three Arizona children have not had health insurance coverage for two consecutive years. Fifty-four percent of chronically uninsured children ages one to 16 had not seen a doctor or other provider in the past year and 19 percent had no usual source of care. Not surprisingly, 74 percent of chronically uninsured children's families have a main wage earner who lacks insurance. Of the uninsured, 74 percent live in urban areas, with 52 percent residing in Maricopa alone. Lack of insurance coverage is impacted in part by the large population of non-U.S. citizens in Arizona more than half of whom are uninsured.

-

¹Arizona Republic, June 20, 2000.

MANAGED CARE

The health care delivery system and its financing has dramatically changed in the last 20 years, and managed care has played a dominant role in its evolution. To date, managed care penetration in the US is 67 percent, and approximately 181 million individuals are enrolled in managed care plans. Under the managed care umbrella, health maintenance organizations (HMOs) have become a major source of health care for beneficiaries of both employer-funded care and of the public funded programs, Medicaid and Medicare. HMOs are rapidly expanding, and enrollment has increased from 51 million in 1976 to 79 million in 1999 (CDC, 1995 and Managed Care On Line Information Exchange, 1999).

Managed care is a major force in health care in Arizona, with 86 percent of physicians in Arizona having at least one contract with a managed care plan (Group Health Association of America 1995). In Phoenix 72 percent of commercially insured persons are enrolled in managed care plans, compared to 52.6 percent of Americans nationally (Edlin 1994). In addition, all of the women and children participating in Arizona's Medicaid program are enrolled in managed care plans.

Survey data from telephone interviews conducted during the year 2000 indicate that of children with health insurance, 86 percent are covered by a managed care plan. Sixty-five percent of all children in Arizona have health insurance through a managed care plan. Of children with dental insurance, 78 percent of them are covered through managed care, and 47 percent of all children have dental coverage through some kind of managed care plan.

ARIZONA HEALTH CARE COST CONTAINMENT SYSTEM (AHCCCS)

Arizona was the last state in the nation to implement a Medicaid program. After much debate, the legislature rejected traditional fee-for-service financing arrangements in favor of an innovative plan for Medicaid managed care. In October 1982 the nation's first Section 1115 demonstration waiver for a statewide Medicaid managed care program was approved. AHCCCS is a prepaid managed care Medicaid program that has become a national model. As of April 1999 AHCCCS provided health care coverage to 429,217 eligible members, approximately 10 percent of Arizona's population. As of February 2000 there were 27,363 children enrolled in AHCCCS. However, the number of children under age 21 who were enrolled at any time during the previous federal fiscal year (October 1998 through September 1999) is much higher. A total of 415,549 different children under age 21 were enrolled for some length of time with AHCCCS during this time period.

AHCCCS health care coverage includes only emergency services for individuals who qualify for the Federal Emergency Services (FES) and State Emergency

Services (SES) programs. Full medically necessary health care services are covered for individuals who qualify for Medicaid. In addition AHCCCS is the state agency responsible for administering KidsCare, Arizona's Title XXI Children's Health Insurance Program.

From the beginning the AHCCCS program was envisioned as a partnership which would use private and public managed health care health plans to mainstream Medicaid recipients into private physician offices. This arrangement opened the private physician network to Medicaid recipients and allowed AHCCCS members to choose a health plan and a primary care provider who can be either a physician, nurse practitioner or physician assistant. Primary care providers serve as the gatekeepers for the system and manage all aspects of medical care for members.

SPECIAL CHALLENGES FACING CSHCN IN MANAGED CARE

Increasing numbers of children with special health care needs are enrolling in managed care programs. An underlying principle behind this movement is that managed care may improve service coordination and primary care use. However, managed care may also threaten health outcomes among children with special health care needs by potentially decreasing access to the range of needed services. Authorization requirements and reduced or denied access to specialists have been described as disadvantages of HMOs for chronically ill children. Some states as a result have enacted requirements which mandate how managed care plans select speciality providers and handle referrals to specialists. Medicaid managed care plans often reduce necessary services for chronically ill and disabled children by limiting network providers and require prior authorization for referrals to out-of-plan specialists. Medicaid evaluations found managed care enrollees, as compared for fee-for-service enrollees were 30-50 percent less likely to visit a specialist (The Future of Children, Summer/Fall 1998).

For children with special health care needs, the quality of the benefits package takes on a new dimension. Durable medical equipment is often not covered. Referrals to specialists, specialty services, and non-physician providers are often difficult to obtain or are limited. Needed prescription drugs are often not on insurance formularies, and preventive services which recognize the special needs of the population are often not covered. However, this year the Children's Rehabilitative Services (CRS) contracts reflected the same benefit package for both Title XIX and XXI eligible children.

In 1996 the OCSHCN CRS received a mandate from the governor to examine the feasibility of transitioning its target population to AHCCCS. A two-year study which included analysis of models from other states as well as Arizona data, concluded that CRS services were best provided independently of health care for those with general needs.

In Arizona a multi-specialty, interdisciplinary model of managed care is used to provide rehabilitative services to CSHCN enrolled in CRS. The children receive primary care from one managed care organization and specialty care from another. Procedures are in place to promote good communication between primary and specialty care providers. The specialty care is carved out to ensure that services for the CSHCN are administered so as to effectively integrate and coordinate all services needed to optimize health status outcomes. There is a transition team working on merging primary care and specialty care in the future.

Over the past ten years the delivery of CRS services has been modified to better address the issues of CSHCN and their families. The ultimate goal now is to incorporate primary care into the system so that it will truly be comprehensive. As part of this process and to align CRS more closely with the manner in which AHCCCS is financed, the program will begin using capitated rates in future specialty care contracts.

The OCSHCN CRS program offers care through four regional Centers of Excellence located in Phoenix, Tucson, Flagstaff and Yuma (the state's largest population centers). A review of the four regional program providers was conducted to ascertain their costs for treating different conditions. From this review a system of rates was developed based on local costs. Each regional provider will be capitated based on the number of people with low, medium, and high cost conditions.

Since 1993 several surveys have been conducted with Arizona families with CSHCN. The studies collected information on a variety of issues including: prevalence of health conditions, CSHCN functional limitations, access to care, and unmet needs. A 1995 survey of households found that families with CSHCN were considerably more likely to need assistance with health and related services than were families whose children were basically healthy.

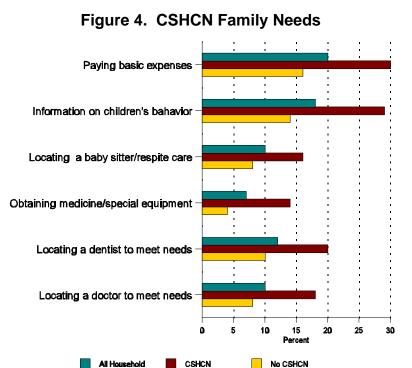
Subsequent assessments have demonstrated a similar pattern of need. The four primary issues identified in the December 1999 Monitoring and Measuring Community-Based Integrated Systems (M&M) Team survey were mental health, social services, service coordination, and out-of-pocket expenses.

As of June 2000, the findings from the Family Survey (481 interviews conducted in 11 communities) indicate that families still need assistance locating physicians and dentists, obtaining respite care and paying for out-of- pocket expenses (see Figure 4). Mental health services are a tremendous need that the state legislature continues to struggle with. Coordination of health care and then

integrating the health care plan into education and social service programs significant remain concerns of parents. There is still significant need to work with the managed care delivery systems to make them more comprehensive and more accessible.

ACCESS TO CARE

Potential sources of primary care services include 28 community health center sites



(CHCs), 13 primary care centers (PCCs) in Maricopa County, AHCCCS contractors, two free clinics (in Phoenix and Prescott), hospital emergency rooms and various tobacco tax primary care programs that provide care to uninsured Arizona residents who are at or below 200 percent of the federal poverty level (FPL).

Community health centers served over 275,0000 individuals in more than 85 medically underserved Arizona locations. Approximately 145,000 of CHC clients are uninsured. In addition, CHCs provide services to Medicare clients, privately insured patients and participate in AHCCCS and the Arizona Tobacco Tax Primary Care Programs. There are 11 federally qualified community health centers located at 38 delivery sites throughout Arizona that provide primary care services on a sliding scale basis.

Maricopa hosts one of the largest uninsured populations in Arizona. Its PCCs have been historical providers of health care to the uninsured and have approximately 300,000 outpatient visits annually. One of Maricopa's Primary Care Centers, McDowell Healthcare Center, is the largest provider of HIV-related medical care for adults in Maricopa County.

KIDSCARE

KidsCare is Arizona's Children's Health Insurance Program (CHIP). It is a federal and state program administered by AHCCCS to provide health care services for children under the age of 19 living in families with a gross income at

or below 200 percent of the FPL. Since KidsCare began in 1998 enrollments have risen steadily. The outreach efforts undertaken to identify children eligible for KidsCare have also resulted in identifying additional children who are eligible for Medicaid. Enrollment increased from 3,710 in December 1998 to 14,985 in June 1999, a 304 percent increase. There were an additional 13,228 children enrolled in Medicaid as a result of applying for CHIP. As of February 2000 there were 28,657 children enrolled in KidsCare who had chosen a health plan and an additional 5,738 who had been determined eligible but had not yet been enrolled with a health plan (1.4 percent are under age one; 69.3 percent are age 1-13; 29.1 percent are age 14-18; and 0.2 percent are age 19).²

Because of lower than expected initial enrollment, the AHCCCS administration made a number of modifications to their policies and procedures to enhance participation in the KidsCare Program. These efforts included eliminating an interview requirement, allowing mail-in applications, simplifying the application, limiting required verification to income and citizenship, guaranteeing a 12-month enrollment, allowing annual redeterminations by mail, promoting community partnership for outreach, directing mailings of information and applications to over 100,000 households, and implementing a hotline to provide help with applications.

1994 TOBACCO TAX

In November 1994 state residents approved a ballot initiative that increased tobacco taxes by 40 cents per pack to finance primary health care for the poor and anti-tobacco education and research programs. Tobacco tax and participant contributions both fund Arizona's Premium Sharing Initiative. This four-county three-year demonstration program provides health insurance to families below 200 percent of the FPL. The program also provides insurance to chronic illness sufferers up to 400 percent of the FPL who cannot obtain insurance. Families must contribute up to four percent of their household gross income; chronic illness sufferers above 200 percent of the FPL must pay the full premium.

HEALTH PROFESSIONALS FOR CHILDREN WITH SPECIAL HEALTH CARE NEEDS

The four CRS regional Centers of Excellence previously mentioned provide multi-specialty, inter-disciplinary care at their base sites and through 22 condition-specific outreach clinics. With respect to surgical sub-specialists, there are a number who have many years of experience and who treat pediatric patients as part of their practice. There is a shortage of practitioners who have completed additional specific pediatric fellowship training in the sub-specialties of neurosurgery and urology which are frequently involved in the care of CSHCN. There is particular concern over the long term availability of pediatric

²Source: Children's Action Alliance Website, June 21, 2000.

rheumatologists. There is no statewide shortage of dentists, pedodontists and orthodontists. However, not all are willing to take the more medically complex CSHCN patients. Most of the resistance is related to low payment rates and perceptions of the bureaucracy of public systems in general. Another concern is related to the use of anesthesia. The standards a facility must meet to perform procedures under general anesthesia or even conscious sedation are very stringent. Procedures can not be authorized unless they are done in a very controlled environment like a hospital or an outpatient surgery setting. Further, it is sometimes difficult to obtain an anesthetist with the appropriate knowledge and experience for CSHCN with complex conditions.

It is also difficult to obtain the services of allied health professionals in three areas: child life specialists, bi-lingual speech and language pathologists and bi-lingual psychologists. Even recruiting nationally, these specialists are rare and difficult to attract. Recruiting physical and occupational therapists is an ongoing challenge in general because of the low number of in-state university training programs.

ARIZONA STATE IMMUNIZATION INFORMATION SYSTEM (ASIIS)

The ADHS Arizona Immunization Program provides funding, vaccines, and training support to public immunization clinics and private providers throughout Arizona. The program works to increase public awareness by providing educational materials to County Health Departments and community health centers and through partnerships with local and statewide coalitions. The program also monitors immunization levels of children in Arizona, performs disease surveillance and outbreak control, provides information and education, and enforces the state's immunization laws. ASIIS is designed to collect, store, analyze and report immunization data through a central registry maintained at the ADHS.

THE ARIZONA PARTNERSHIP FOR INFANT IMMUNIZATION (TAPII)

In 1992 the ADHS founded the Arizona Partnership for Infant Immunization (TAPII) as part of Arizona's federal Immunization Action Plan. The goal of TAPII is to deliver age-appropriate immunizations by the year 2000 to at least 90 percent of all Arizona children before their second birthday. The TAPII coalition is a partnership between public and private entities consisting of over 400 individuals and organizations (e.g. ADHS, AHCCCS plans, child advocacy groups, commercial HMOs, county health departments, insurers).

COMMUNITY BASED CENTERS (SCHOOL BASED/SCHOOL LINKED CENTERS)

School-based health centers have grown rapidly during the 1990s throughout most of the United State. They are located in 45 states plus the District of

Columbia. Arizona reports the second highest number of school-based health centers in the nation. For example, in 1998 Arizona reported 82 school-based health centers compared to 158 in New York, a much bigger population center.

Arizona's first school based center opened in Coolidge in 1988. Although this center has not provided medical care, it has provided a broad range of other services essential to families in that community. Since the development of this center, the concept of bringing services to the doorsteps of children and their families has become increasingly popular in Arizona and is improving the health status of Arizona's children and their families.

Arizona's model of community-based centers is based on a systems development concept. Self-defined communities develop services based on needs which are identified by that community. Centers are funded through community partnerships developed among schools, hospitals, community health centers, private foundations, philanthropic organizations, and tobacco tax initiative. The population served varies at each center. Some centers provide services only to the children attending the school; some serve siblings; some serve the entire family; and some serve the entire community. The services provided also vary by each center. Community-based centers may provide primary health care, behavioral health and an array of social services. The centers may be at a school, a location linked to a school, or a community center that serves the children from a particular school.

MEDICAL HOME PROJECT

The Medical Home Project (MHP), administered through the Arizona chapter of the American Academy of Pediatrics (AzAAP), was designed to increase access to and utilization of primary care services for Arizona's uninsured children from The MHP provides delivery of medical services in low-income families. participating physicians' offices to children without health insurance and to those who do not qualify (or are in the process of qualifying) for public assistance. The MHP creates a system of linkages between medical providers and school nurses to assist with health care provision to the target population. School nurses identify children who are eligible to participate in the MHP and facilitate their enrollment. To be eligible for the MHP a child must have no health insurance; must not be eligible for AHCCCS, KidsCare, or IHS; and must have a household income less than 185 percent of the FPL. If a child appears to be eligible for AHCCCS or KidsCare, the school nurse is encouraged to identify resources to assist families with the application process. A child with an acute illness may be seen through the MHP while in the qualifying process. The child is provided with a referral form to a participating health care provider and the school nurses makes the appointment.

A network of physicians (pediatricians, family practice physicians and specialists) provide care to children qualifying for the MHP for a fee of either \$5 or \$10 as payment-in-full for an office visit. The health care providers agree to provide a certain number of appointment slots to MHP children each month. Development of the provider network has been an ongoing effort since the beginning of the project in 1993. In addition prescription medications, diagnostic laboratory services and eyeglasses are provided as necessary to qualifying children.

Funding for the MHP has been provided by a number of entities. The ADHS Office of Women's and Children's Health (OWCH) has had a contract with the AzAAP since 1993 to fund the project management. Other sources of funds include the Robert Wood Johnson Foundation, St. Luke's Charitable Health Trust, Arizona Diamondbacks Charities, Diamond Foundation as well as many others. In addition to the primary care providers, a variety of specialist providers (e.g. cardiology, dentistry, dermatology, ENT, orthopedics, pulmonology, etc.) have donated their services to children in need of care.

The MHP is currently operating in nine Arizona counties involving school nurses from 786 schools (representing 61 school districts). The primary care provider network consists of 10 pediatric group practices, an additional 58 individual pediatricians, 11 family practice groups, and an additional 30 individual family practitioners. The total number of appointment slots available per month is 1,081.

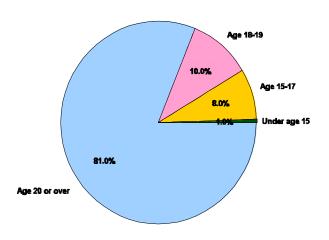
FAMILY PLANNING SERVICES

There has been a great deal of change in the provision of family planning services within Arizona in the past five years. In addition to services provided to

women of childbearing age through private health insurance, federal funding had been available through three feeral sources: Title V, Title X and Title XX. Figure 5 shows the age distribution of Title X clients.

The OWCH has used Title V funds to contract for reproductive health and family planning services for women who are at or below 150% of the FPL. Contracts are currently in place with 11 county health departments to provide service.

Figure 5. Age of Title X Clients



In 1999 the contracted counties provided 6,032 client exams and 4,370 pregnancy tests.

The Arizona Family Council is the Arizona recipient of Title X federal funds. In Arizona, Title X funded direct services are provided by community-based private and public agencies through contracts with the Council. In 1998, 45,820 individuals were served at 28 clinic sites in seven of Arizona's 15 counties. There were 96,868 visits provided in 1998. Of the clients served, 67 percent were at or below 100 percent FPL; 16 percent are 101-150 percent FPL; eight percent were 151-200 percent FPL; and 10 percent were at 201 percent FPL or above.

ORAL HEALTH

Oral health means much more than having healthy teeth. It means being free of chronic oral-facial pain conditions, oral and throat cancers, oral soft tissue lesions, birth defects such as cleft lip and palate, and scores of other diseases and disorders that affect the oral, dental and facial tissues. Oral health is integral to general health.

Healthy teeth and gums are important to the overall well-being of all children. When women and children do not get needed dental treatment, they may eventually experience pain or swelling due to infected teeth. In addition, they may suffer from lowered self-esteem, decreased self-confidence, embarrassment as well as compromised nutrition, speech and general appearance. In addition, missed days of school or work may have an impact on families.

Currently, the majority of dental services are provided through private practice dental offices. The private dental system has often been termed a cottage industry where over ninety percent of dentists provide services in practices comprised of one to two dentists. Dental care in these settings provide some of the best dental services available in the world.

In addition to the private dental care system, oral health services are provided through a safety net of county health department dental clinics, community health centers and a few school-based and school-linked health centers. This safety net system provides care to low-income, dentally uninsured/underinsured, and under-served populations. This system provides essential dental services to those most at risk of dental diseases. However, the system is not comprehensive in that it does not serve all communities or all populations. This fragmentation is one variable contributing to significant disparities in oral health status in economically disadvantaged populations as well as racial and ethnic minority groups and geographically isolated communities.

Access to dental care is affected by finances and insurance status. Arizonans report finances as a primary factor related to access to dental services. While

approximately, 24 percent of Arizonans are medically uninsured, over 38 percent of children and 44 percent of adults are dentally uninsured.

Another barrier to receiving dental services is access to dental care providers. Arizona suffers from an unequal distribution of dentists and dental hygienists. A disproportionate number of dental care providers practice in or near major communities including Phoenix, Flagstaff and Tucson. This results in underserved areas and populations throughout the state. Individuals residing in rural areas may lack adequate transportation or have long distances to travel affecting access to services.

In addition to the distribution of dental providers, there may exist an inadequate supply. Arizona's ratio of dentist-to-population is lower than the US average. Arizona has one dentist to every 2,250 people whereas the national average is one dentist to every 1,740 people, a difference of 510 people per dentist. Arizona has had a steady population increase of 27 percent from 1990-1998. The percent increase for licensed dentists is significantly lower at 0.5 percent for 1991-1997. Arizona's population is expected to increase consistently over the next decade and there is no guarantee that the number of dentists is expected to increase at the same rate.

The supply of dental hygienists fares a little better. There are fewer licensed dental hygienists in Arizona, however, dental hygienists have seen a growth of 31 percent over the past five years and the growth rate is expected to continue.

BEHAVIORAL HEALTH

The ADHS, Division Behavioral Health Services (DBHS) was reorganized to create permanent authority for behavioral health and to express commitment to the importance of planning, administration, regulation and monitoring of all facets of the state public behavioral health system (August 13, 1986 Arizona Revised Statutes §36-3402 et. seq.). The focus of DBHS is to promote healthy development and to provide effective prevention, evaluation, treatment and intervention services to people in need who would otherwise go unserved. Empowering people to lead responsible, productive and meaningful lives would reduce the cost to society of behavioral health problems and improve the quality of life for the people served.

Behavioral health services in Arizona have been delivered through community based contractors for a number of years. ADHS/DBHS contracts with organizations known as Regional Behavioral Health Authorities (RBHAs) to administer behavioral health services in the state. These RBHAs, which are private non-profit organizations, function in a similar fashion to an HMO.

The RBHA system has been integrated for a number of years, making one system responsible for coordinating alcohol, drug and mental health services for all populations. The RBHAs develop a network of providers to deliver a full range of behavioral health care services, including prevention programs for adults and children, and a full continuum of services for adults with substance abuse and general mental health disorders, adults with serious mental illness, and children with serious emotional disturbance.

At this time there are five active RBHAs in Arizona: NARBHA (northen Arizona), Excel (Yuma and La Paz), ValueOption (Maricopa), PGBHA (Pinal and Gila), CPSA (Graham, Greenlee, Cochise, Santa Cruz, Pima). The RBHA clinics have three funding sources: Title XIX, Title XXI and non-Title XIX (which is mainly state funds and some federal funds). The RBHA clinics have three main focus areas: Children, Seriously Mentally III, and Non-Seriously Mentally III. As of October 1999 there were a total of 125,733 clients served by the RBHA clinics for the fiscal year of July 1998 through June 1999. Based on the prevalence estimates from the DBHS this number accounts for only 23% of the individuals with behavioral health needs living in Arizona. It is not known at this time whether or where the remaining 77 percent of individuals receive behavioral health care. It is estimated that only a fraction of children and adolescents with serious emotional disturbances in the United States have access to appropriate mental health services and related supports for their families.

GENERAL HEALTH

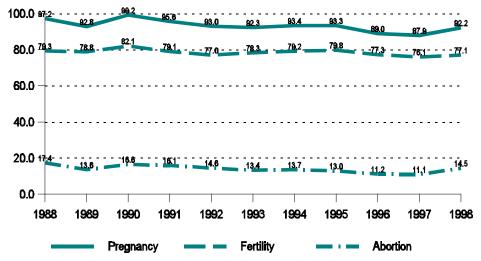
The Arizona Behavioral Risk Factors Survey (BRFS) collects health information on Arizona residents 18 years of age and older using a random sample. This telephone survey traditionally assesses overall characteristics and health risk behaviors of its respondents. BRFS respondents in 1998 were asked to rate their general health. Ninety-four percent of Arizonan women 18-44 years stated that their health was good (23 percent), very good (39 percent) or excellent (32 percent). Only six percent rated their health as fair or poor. Also according to the 1998 BRFS, approximately one percent of women 18-44 years were ever told that they have diabetes by their health care provider.

PREGNANCY RATES

While the population of women of childbearing years (15-44) increased by only 1.8 percent from 1997 to 1998, the number of pregnancies increased by 6.8 percent to a total of 93,148 pregnancies in Arizona in 1998, resulting in 77,940 live births. From 1993 through 1998, the percent of births to unmarried mothers has remained at approximately 38 percent, and the percent of births to adolescent girls (age 15-19) has remained at approximately 15 percent.

Table 2. Births to Adolescent Girls and Unmarried Women										
Number of births	1993	1994	1995	1996	1997	1998				
Total	69,037	70,896	72,386	75,094	75,563	77,940				
To Adolescents age 15-19	10,251	10,612	10,744	11,031	10,871	11,461				
To Unmarried	26,069	27,115	27,627	29,157	28,472	29,924				
Births as a Percent of Total	1993	1994	1995	1996	1997	1998				
To Adolescents age 15-19	14.8%	15.0%	14.8%	14.7%	14.4%	14.7%				
To Unmarried	37.8%	38.2%	38.2%	38.8%	37.7%	38.4%				





In addition to the 77,940 live births reported, there were also 14,606 abortions and 602 fetal deaths in 1998. Figure 6 shows Arizona pregnancy, fertility (live births) and abortion rates over a ten-year period. Raw frequencies and rates for these measures are presented in Table 3.

	Table 3. Pregnancies by Outcome: 1988 through 1998										
Total Number	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Pregnancies	80,313	79,078	83,105	82,279	82,095	81,445	83,663	84,621	86,445	87,256	93,148
Births	64,544	67,128	68,814	68,040	68,675	69,037	70,896	72,386	75,094	75,563	77,940
Abortions	14,350	11,575	13,890	13,882	12,893	11,852	12,260	11,738	10,868	11,056	14,606
Fetal Deaths	419	375	401	357	527	556	507	497	483	637	602
Rates per 1,000 Women Age 15-44	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Pregnancy	97.2	92.8	99.2	95.6	93.0	92.3	93.4	93.3	89.0	87.9	92.2
Fertility	79.3	78.8	82.1	79.1	77.0	78.3	79.2	79.8	77.3	76.1	77.1
Abortion	17.4	13.6	16.6	16.1	14.6	13.4	13.7	13.0	11.2	11.1	14.5

While the overall pregnancy rate for Arizona was 92.2 per 100,000 women age 15-44 in 1998, the rate for Hispanic women was 44 percent higher. American Indian women also had a higher pregnancy rate than African-American, non-Hispanic White and Asian women, as shown in Figure 7.

per 1,000 Women Age 15-44 **Arizona and United States by Ethnicity** 25 Non-Hispanic White Asian African-American American Indian Hispanic O 20 40 60 80 100 120 160 US Birth Rate AZ Birth Rate AZ Pregnancy Rate

Figure 7. 1998 Pregnancy and Birth Rates

PHYSICAL ACTIVITY, NUTRITION AND RISK BEHAVIORS

Approximately two-thirds of Americans die from chronic disease, specifically cardiovascular disease and cancer. Sedentary lifestyle is a major risk factor for both of these diseases. According to the 1998 BRFS, Arizona ranks first in the nation in adults who report no leisure-time physical activity (51.3 percent). No leisure-time physical activity is defined as no exercise, recreation, or physical activity other than regular job duties during the previous month. Fifty-three percent of women ages 18-44 engaged in no leisure-time physical activity, and 22 percent engaged in irregular physical activity. Only 25 percent of women 18-44 were involved in regular/vigorous physical activity.

Respondents were asked if a doctor or other health professional ever talked to them about physical activity or exercise. Approximately 79 percent of women age 18-44 stated they had not ever discussed physical activity with a health professional. Only 8.7 percent of women had received physical activity counseling within the past year.

According to the 1988 Surgeon General's Report on Nutrition and Health, diseases of dietary excess and imbalance rank among the leading causes of illness and death in the United States, touch the lives of most Americans, and generate substantial health care cost. Several questions on fruits and

vegetables consumption were asked on the BRFS to determine how many of these are eaten per day. Nationally, 23.8 percent of all adults consumed five or more fruits and vegetables daily. Among women in Arizona ages 18-44, only 6.9 percent consumed five or more fruits and vegetables per day. Over a quarter of women in this age group (26.9 percent) consumed three to four fruits and vegetables per day; 60.8 percent consumed one to two per day; and 5.5 percent consumed less than one fruit or vegetable per day. An overwhelming 82.3 percent of women had not been counseled about their diet or eating habits by a health care provider.

Overweight and obesity reached epidemic proportions during the 1990s affecting all regions and demographic groups in the U.S. Recent estimates suggest that one in two adults in the United States is overweight or obese, an increase of more than 25 percent over the past three decades (JAMA, vol. 282, no. 16, 1999). According to the 1997 National Health Interview Survey, nearly half (46.6 percent) of women are considered overweight. The 1998 BRFS indicates that 18.7 percent of women in Arizona 18-44 years of age are overweight (body mass index ≥ 27.3). It is important to note that individuals are more likely to underreport their weight, and the BRFS may underestimate the prevalence of overweight.

In 1997 BRFS respondents were asked about cholesterol and blood pressure screening. Over half (56.6 percent) of women 18-44 years had ever had their blood cholesterol checked. More than a third (37.3 percent) of women reported receiving a cholesterol screening in the last year. Only 3.9 percent of women had their cholesterol checked 5 or more years ago.

A large proportion of women (91.2 percent) ages 18-44 reported having a blood pressure screening in the past two years. Approximately five percent of women had ever been told that they have high blood pressure, and 3.4 percent had been told that they have high blood pressure on more than one occasion. When women 18-44 years were asked if a health care provider advised them to eat foods lower in fat and cholesterol to reduce the risk of cardiovascular disease and stroke, the majority (71.1 percent) of women responded that they had not been advised.

Annually, over 20,000 alcohol related deaths occur in the U.S. excluding motor vehicle fatalities (Monthly Vital Statistics Report, Vol. 45, no. 11, Supplement 2, 1995). The 1997 BRFS asked respondents a number of drinking behavior questions. Acute or binge drinking is defined as having five or more drinks on one or more occasions during the previous month. Nationally 14.9 percent of U.S. adults report engaging in binge drinking. An estimated 6.8 percent of Arizona women ages 18-44 reported binge drinking one or more times on one occasion during the past month.

Chronic alcohol abuse has been linked to cirrhosis, anorexia, and osteoporosis, and increases the risk of cancers of the esophagus, liver, larynx, and breast (Western Journal Nursing Research, vol. 19, no.1, 1997). Chronic drinking is defined as having two or more drinks per day. According to the 1997 BRFS, 1.3 percent of Arizonan women 18-44 years engaged in chronic drinking in the past month. Women were asked how many times they drove when they had too much to drink, 0.7 percent of women had driven while intoxicated on one or more occasions.

Smoking is the single most preventable cause of death and disease in the United States. Smoking is a major contributor to lung cancer, oral cancer and heart disease and has been causally linked to respiratory illness among non-smokers. The CDC reports that during 1990-1994, there were an average of 430,741 individuals who died annually of smoking related illnesses. Of those deaths 5,912 were Arizonans. It is estimated that costs associated with tobacco use in Arizona totaled \$659 million in 1993. According to the Arizona Adult Tobacco Survey conducted in 1999, the prevalence of current adult female smokers was 17.4 percent, a 26.4 percent decrease from the 1996 baseline estimate of 22.0 percent.

On average, female smokers in Arizona smoked 16.2 cigarettes daily in 1999 compared to the state average of 18.6 cigarettes for all smokers. The number of cigarettes smoked daily increases with age among women 18-44 years. Women ages 18-24 smoked an average of 13.3 cigarettes per day in 1999 compared to 15.4 cigarettes among women ages 25-34 and 15.9 cigarettes among women ages 35-44. When asked if they expect to be smoking one year from now, 26.1 percent of women stated they do not expect to be smoking in 1999 compared to 23.7 percent in 1996. Among BRFS female respondents who were current smokers and ages18-44 years, over a quarter (29.2 percent) had not been counseled to quit smoking by their health care provider. A little less than half (46.9 percent) of women had been counseled in the last year.

In the U.S. approximately 4,000 pregnancies annually are affected by neural tube defects. Studies have shown that up to 50 percent of neural tube defects such as spina bifida and anencephaly are preventable through intake of folic acid. The U.S. Public Health Service recommended in 1992 that all women of child bearing years should consume 400 micrograms of the B vitamin folic acid to reduce the risk of neural tube defects during pregnancy. According to the March of Dimes Report on Folic acid, 1995-2000, 34 percent of all women and 32 percent of non-pregnant women took daily vitamin supplements containing folic acid. In Arizona, 53.6 percent of women ages 18-44 currently took a vitamin or supplement in 1998. A little less than half (48.8 percent) indicated that the vitamin or supplement was a multivitamin.

When BRFS respondents were queried about their seat belt use a large proportion of women 18-44 years reported wearing their seat belt always (72.9 percent) or nearly always (21.9 percent). Only 3.5 percent of Arizonan women reported wearing their seat belt sometimes, and 1.4 percent wear it seldom or never. In addition, when asked if they had received injury prevention counseling, 89.0 percent stated that they had not, and 5.4 percent had received counseling in the past year.

ORAL HEALTH

Oral health of women can be impacted by a variety of factors. Access to annual dental visits, although an indicator of health, does not tell the whole picture since dental diseases are typically results of an accumulation of disease over months, years and decades. Patterns of care over time contribute to oral health status. However, the annual dental visit is used as a marker of accessibility of health services.

So how does Arizona compare to the nation in accessing dental services? The US Surgeon General's Report released in May of 2000 entitled *Oral Health in America* indicates that two-thirds of adults report visiting a dentist in the past year. In Arizona, the most recent dental visit for women ages 18-44 years is as follows:

- 55.3% report visiting a dentist in the past year
- 29.3% report visiting a dentist in the past one to two years
- 5.6% said it had been two to five years since their last dental visit
- 8.9% said it had been five or more years since the last dental visit

Over two-thirds (68.8 percent) of women who had not visited a dentist in the past year stated cost as the deterrent. Other reasons for not visiting a dentist in the past year include no reason to go (14.0 percent), fear of pain (5.7 percent), and other priorities (4.8 percent).

Research findings suggest that chronic oral infections may be associated with diabetes, heart and lung diseases, stroke, and low-birth weight/ premature births. Women ages 18-44 years were asked how many permanent teeth had been removed due to tooth decay or gum disease. A little less than half (47.3 percent) of women stated that they had no teeth removed. However, a large proportion of women (46.4 percent) reported that they had between one and five teeth removed. Tooth removal for tooth decay and periodontal disease is considered to be the result of long-term untreated dental infections.

In recent research, oral health of infants and toddlers has been associated with the oral health status of their mothers. Specifically, children of mothers with high levels of tooth decay-causing bacteria and untreated tooth decay are more likely to contract bacteria early in life. This early transmission leads to significantly higher levels of tooth decay in the children. In Arizona, young children experience dental decay at alarming rates:

- 6 % of one-years-old have experienced tooth decay
- 22% of two-years-old have experienced tooth decay
- 35% of three-years-old have experienced tooth decay
- 49% of four-years-old have experienced tooth decay

AHCCCS provides only emergency dental services for persons over the age of 21 years. Additionally, the dental care delivery system does not readily accommodate the dental needs of children under the age of three. There are few pediatric dentists throughout the state, the specialists most likely to address the dental needs of these children, and few general dentists are willing to treat such young children. Therefore, a dental care delivery system for young children is virtually non-existent.

MENTAL HEALTH AND QUALITY OF LIFE

According to the 1998 BRFS, 15.6 percent of Arizonan women 18-44 years stated their mental health was not good for two or more days during the past 30 days. In addition, 14 percent of women responded that they had felt sad, depressed or blue for one to two days, and a tenth felt depressed for three to seven days in the past month.

The 1998 BRFS asked respondents a series of quality of life questions. The majority (83.8 percent) of women felt healthy and full of energy for 15-30 days during the past month. Five percent of women stated that they were limited in their activities because of an impairment or health problem. An estimated 3.3 percent of women stated that they were limited by pain for three to seven days during the past month. In addition 15.5 percent of women responded that they did not get enough rest or sleep for 15-30 days during the past month. Similarly, 21 percent of women felt tense, worried, or anxious for one to two days in the past month, and nine percent felt this way for 15-30 days.

ACCESS AND BARRIERS TO CARE

Adequate access to health care services is a major determinant of health care use and outcomes. In today's health care environment, lack of health insurance is a significant barrier to receiving clinical and preventive services. Approximately 16 percent of the U.S. population in 1997 did not have health insurance. Arizona falls below the national average with nearly a quarter (24.5 percent) of its population without health care coverage (U.S. Bureau of the Census: Household Economic Studies, Current Population Reports, series P-60, no. 190, 1998).

According to the 1998 BRFS, 20.8 percent of women in Arizona ages 18-44 years did not have health care coverage. Among women who had health care coverage, only 16.3 percent had health insurance for five or more years. Over a quarter of respondents (28.2 percent) who had health insurance coverage had it for less than one year.

Individuals without health care coverage are less likely to have a regular source of health care. An estimated 83 percent of Arizona women had one place to which they usually go if they are sick or need health advice, and nearly 10 percent did not have a usual place. Among women who had a place to go when sick, nearly two-thirds (66.3 percent) identified one health care professional to which they usually go for routine medical care. Approximately half (51 percent) of women had visited a physician for a routine health check-up in the past year. Nearly 22 percent of women responded that it had been two or more years since their last routine check-up, and over a quarter (28.6 percent) of women had changed doctors within the last two years.

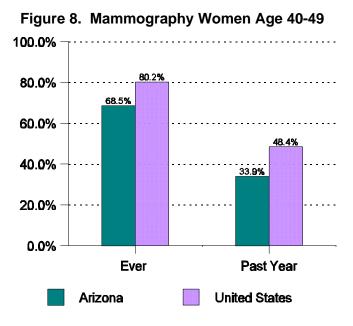
The majority (67.7 percent) of Arizonan women 18-44 years rated their overall health care satisfaction as excellent, very good, or good, and 12.4 percent rated it as fair or poor. (Twenty percent of women responded "not applicable" or "unknown.") An estimated 38 percent of women responded that cost was a barrier to accessing care. Among women who had a place to go when sick, an estimated 14 percent rated the convenience of their health care facility as fair or poor.

PREVENTIVE HEALTH CARE

Breast cancer is the most commonly diagnosed cancer among women excluding skin cancer and is the second leading cause of cancer related death following lung cancer. According to the American Cancer Society (ACS), approximately 182,800 new cases will be diagnosed, and 40,800 women will die of breast cancer in the year 2000. In Arizona, 2,600 new cases of breast cancer will be diagnosed among women, and 600 women will die of the disease in the year 2000. A review of Arizona Vital Statistics indicates that in fact 644 women died of breast cancer in Arizona in 1998, representing 27.2 deaths from breast cancer per 100,000 women in Arizona. Although the national breast cancer mortality rate is not available for 1998, Arizona falls below the 1997 national breast cancer mortality rate of 30.7 per 100,000 women. When breast cancer is diagnosed at an early stage, the five year survival rate is 96 percent. This rate drops considerably to 21 percent when the disease has spread to other body sites.

The American Cancer Society recommends a combined approach to detect breast cancer early: mammography, clinical breast exam, and breast self-examination. Mammography is the best method to detect breast cancer at its earliest and most treatable stage. A mammography can detect breast cancer approximately 1.7 years before a woman can palpate a lump. A screening mammogram is recommended every year for women 40 and older. Women between the ages of 20 and 39 should have a clinical breast exam (CBE) every three years. Women 40 and older should have a clinical breast exam done by a health professional every year. ACS recommends performing a breast self-examination every month for women 20 and older.

In 1998, 80.2 percent of women in the nation ages 40-49 reported ever having received a mammogram (see Figure 8). Arizona falls well below the national median with only 68.5 percent of BRFS respondents reporting ever receiving mammogram. Although guidelines recommend annual screening mammogram, only half (49.5 percent) of the Arizonan women who reported obtaining a mammogram had in the past year, representing 33.9 percent of all women age 40-49 (0.685 X



0.495=0.339). Of the 80 percent of women in the nation who had ever had a mammogram, 60.3 percent had one in the past year, representing 48.4 percent of all women age 40-49 (0.802 X 0.603=0.484). AHCCCS Administration does an annual review of its claims and encounters for health care services and determined that for the two-year period ending September 30, 1998, 57 percent of the women age 50 through 64 (who were continuously enrolled with AHCCCS during that time period) had a mammography.

Similarly, women were asked if they had received a breast exam by a health care professional. Over three-quarters of women ages 18-49 (77.0 percent) reported ever receiving a clinical breast exam. Arizona's prevalence of ever receiving a clinical breast exam is below the national median of 87.7 percent for women ages 18-39 and 93.4 percent for ages 40-49. In Arizona, of those who had a clinical breast exam, an estimated 78.7 percent of women ages 18-49 reported having one in the past year.

In the last four decades, the incidence of invasive cervical cancer has decreased considerably due to early detection efforts. However, the American Cancer Society estimates that 12,800 new cases will be diagnosed in the year 2000 and 4,600 women will die of cervical cancer. Two hundred new cases are likely to be diagnosed in Arizona (American Cancer Society Facts and Figures, 2000). A review of Arizona vital statistics found 46 women died from cervical cancer in 1998, representing 1.9 deaths per 100,000 women. Although national figures are not available for 1998, Arizona is below the 1997 U.S. cervical cancer mortality rate of 3.3.

The majority of cervical cancers can be prevented because they usually begin with easily detectable precancerous changes. The single most effective cervical cancer screening tool is the Papanicolaou (Pap) test. The American Cancer Society recommends a Pap test annually for all women beginning at the age of 18 or when a woman becomes sexually active, whichever occurs first. When a woman has had three consecutive negative annual Pap tests, screening may occur less often at the discretion of the health care provider.

According to the 1998 Arizona BRFS, 83.9 percent of women ages 18-44 reported ever having a Pap test compared to the United States levels of 93.2 percent of women ages 18-39 and 98.4 percent of women ages 40-49. Of Arizona women who had ever had a Pap test, an estimated 80 percent of women ages 18-44 reported having a Pap test in the last year, and 95.7 percent reported having a Pap test in the last three years.

AHCCCS Administration does an annual review of its claims and encounters for health care services and determined that for the one-year period ending September 30, 1998, 32 percent of the women age 16 through 64 (who were continuously enrolled with AHCCCS during that time period) had a Pap test.

From 1991 to 1995, there were 2,939 breast cancer deaths and 289 cervical cancer deaths. The state's average annual age-adjusted mortality rate for breast cancer for this period was 23.3 per 100,000 women, below the national median of 26.0 per 100,000. The average annual age-adjusted cervical cancer mortality rate (2.8 per 100,000) also was below the national median (2.4 per 100,000) (Arizona Minimum Data Elements, 1998). In order to increase screening rates among women, Arizona established the Well Woman Healthcheck in1992 and began screening in 1995. From its inception through January 2000, Arizona's program has enrolled 7,000 women who are uninsured or under-insured, 200 percent below the Federal Poverty Level, and provided 10,000 mammograms and 9,000 Pap tests. The Well Woman Healthcheck operates in seven counties and ten Native American sites. It is estimated that over 204,000 Arizonan women are eligible for this public health program.

FAMILY PLANNING

The Arizona Family Planning Council (AFPC) conducted a needs assessment in an effort to determine unmet need for family planning services in Arizona. The AFPC reports that of the more than 1,000,000 females of reproductive age in Arizona, 70 percent lived in Maricopa and Pima counties, approximately 172,545 were between 15-19 years of age and more than 15 percent had income at or below the 100 percent of the Federal Poverty Level (FPL). The FPL for a family of three in 1998 was \$13,363. The following publicly funded sources for family planning services were identified:

- Title V of the Social Security Act- MCHB/OWCH
- Title X of the Public Health Services Act AZFPL and the Navajo and Gila River Indian Tribes
- Title XIX of the Social Security Act AHCCCS / SOBRA Family Planning Services Extension Program (eligibility extends to 140 percent FPL)
- Indian Health Services centers
- State Tobacco Tax Primary Health Care Programs
- Federal Programs, Section 330/340, Community Health Centers, Seasonal Migrant Farm Worker and Health Care for the Homeless.
- Local governments contributed to the provision of some uncompensated health care.

Unmet need was assessed by analyzing data from public resources to estimate the number and proportion of the population of women between the ages of 14 and 45 with an income status at or below 200 percent of the FPL who lacked access to a publicly funded family planning provider. This estimate included women who are pregnant as well as those who are fecund, sterile, infertile or sexually inactive. The Council estimated the unmet need in 1998 at 44 percent or in excess of 170,000 women.

Three major factors were identified as barriers to women accessing family planning services: 1) Financial. For low-income women, the cost of services and prescriptions can serve as a deterrent to accessing health care. 2) Cultural. Arizona has a very diverse population and some women may receive conflicting messages regarding reproductive health issues. 3) Geographic. While the majority of Arizonans live in urban areas, approximately 24 percent live in rural or frontier areas. The distance or lack of transportation can restrict access to an affordable health care provider.

The OWCH Reproductive Health Program provided 6,298 client visits, 5,741 pregnancy tests for non-Family Planning clients and 1,251 injections of Depo Provera through contracts with county health departments. In fiscal year 1997, \$200,000 in Title XX funds for family planning services were eliminated from the OWCH Reproductive Health Program, which resulted in a decrease of 1,739

clients in Fiscal Year 1997 and an additional decrease of 1,094 clients receiving services in fiscal year 1998.

Other unmet needs related to reproductive health include a lack of low cost colposcopy, cryosurgury and other treatments when low-income, uninsured women have abnormal Pap tests. The state also needs to examine possible methods of measuring the rate of unintended pregnancies. Women who have planned pregnancies are more likely to seek early prenatal care and are less likely to abuse or neglect their children.

MORTALITY RATES AND MAJOR CAUSES OF DEATH

In 1998 there were a total of 1,056 deaths of women age 15-44, representing a mortality rate of 104.5 per 100,000 women of childbearing age. Eighty-four of the deaths were among adolescent females age 15-19, representing a mortality rate of 54.2 deaths 100.000 per adolescent females; and 972 deaths were among young-adult women age 20-44, representing a death rate of 113.6 deaths per

Figure 10. 1998 Causes of Death Females Age 15-19

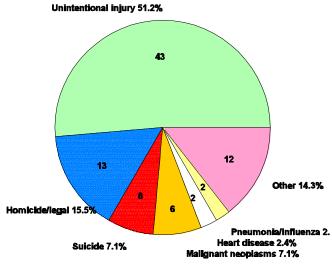
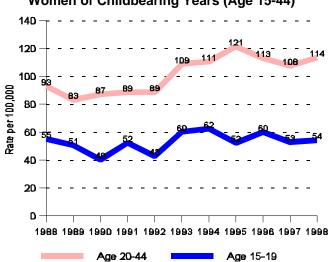


Figure 9. Mortality Rates
Women of Childbearing Years (Age 15-44)



100,000 young-adult women (see Figure 9).

ADOLESCENT FEMALES

More than half of the deaths among adolescent females were caused by unintentional injuries with most of these (n=35) due to motor vehicle accidents. Homicide/legal interventions and suicide caused the deaths of another 23 percent. Figure 10 shows the number and percent of deaths due to each of the leading causes of death within the 15-19 age group in 1998.

Over the ten-year period from 1988 through 1998, the five leading causes of death among adolescents age 15-19 were: unintentional injuries, homicide, suicide, malignant neoplasms and heart disease. Table 4 below shows the death rate for each of these causes from 1988 through 1998.

	Table 4. Leading Causes of Death per 100,000 Women Age 15-19 1988 through 1998										
Rates per 100,000	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Unintentional injuries	29.9	21.8	19.7	24.6	22.5	30.5	25.8	26.5	28.3	21.4	27.7
Motor vehicle-related	25.2	20.2	18.2	20.6	20.3	25.6	24.2	23.6	24.9	18.1	22.6
Suicide	7.1	6.2	5.5	6.9	1.5	8.0	5.5	3.7	3.5	8.0	3.9
Malignant neoplasms	6.3	3.9	2.4	3.1	3.8	3.2	7.8	2.9	2.8	2.0	3.9
Homicide	3.9	3.1	3.2	6.9	4.5	9.6	7.8	8.8	4.8	6.7	8.4
Heart disease	0.8	1.6		0.8	0.8	3.2	1.6		3.5	2.0	1.3
Total mortality rates All causes	55.1	50.6	40.3	52.3	42.8	60.1	62.4	52.3	60.1	52.9	54.2
Total deaths All causes	70	65	51	68	57	75	80	71	87	79	84

WOMEN AGE 20-44

1998. malignant neoplasms accounted for 22 percent of deaths among 20-44. women age Unintentional injuries accounted for 209 deaths (21.5 percent) with 133 of these (64 percent) related to motor vehicles. Suicide (8.5 percent), and homicide/legal intervention (6.3 percent) accounted for an additional 14.8 percent of deaths. Figure 11 shows а breakdown of causes death for young adult women in 1998.

Figure 11.1998 Causes of Death Among Women Age 20-44

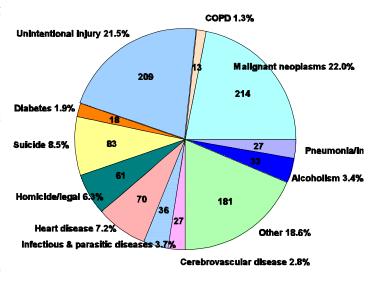


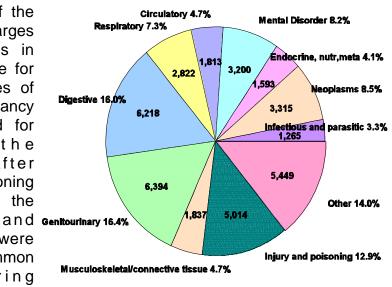
Table 5 below shows the mortality rates for the leading causes of death for women age 20-44 over the ten year period from 1988 through 1998.

	Table 5. Leading Causes of Death per 100,000 Women Age 20-44 1988 through 1998										
Rates per 100,000	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Unintentional injuries	22.0	17.3	20.2	18.5	17.8	20.3	22.9	23.0	24.7	22.4	24.4
Motor vehicle- related	15.7	12.3	14.8	14.0	14.2	13.7	14.5	15.4	16.5	13.6	15.5
Malignant Neoplasms	20.6	17.7	21.7	20.7	19.1	25.9	22.4	23.1	22.9	22.8	25.0
Suicide	10.3	8.0	7.2	7.4	7.5	8.6	9.0	11.8	9.6	8.7	9.7
Homicide	7.3	7.5	6.0	6.2	5.7	7.4	6.8	8.0	5.6	6.6	7.1
Diseases of the heart	6.6	7.6	5.8	8.0	6.0	7.4	9.0	9.2	8.7	8.4	8.2.
Total mortality rate All causes	92.9	83.2	87.0	88.6	88.7	108.7	110.6	121.4	113.2	107.6	113.6
Total deaths All causes	650	602	619	647	664	823	849	936	936	908	972

HOSPITALIZED CONDITIONS

More than one in five of the 538,585 hospital discharges from non-federal facilities in Arizona during 1998 were for women between the ages of 15 to 44. Of them, pregnancy and childbirth accounted for 67percent o f t h e hospitalizations. childbirth, injury and poisoning and ailments related to the digestive system genitourinary system were identified as the most common diagnoses requiring hospitalization among this

Figure 12. 1998 Non-Pregnancy and Childbirth Related Hospitalizations for Women Age 15-44



population. Figure 12 shows the non-pregnancy and childbirth related causes of hospitalizations for women age 15-44 in 1998.³

3

Primary diagnoses were classified according to the following codes: infectious and parasitic diseases: 001-139; malignant neoplasms: 140-239; endocrine, nutritional and metabolic disease: 240-279; disease of the

The primary causes of hospitalization among those with digestive system diagnoses were appendicitis, diseases of the pancreas, cholelithiasis and noninfectious digestive enteritis and colitis. The most common diagnoses for those with genitourinary diagnoses were kidney infections and calculus, endometriosis, disorders of menstruation and other abnormal bleeding. Injury and poisoning hospitalizations resulted mainly from unintentional falls, unintentional motor vehicle accidents, self-inflicted poisoning, and other adverse event /effects such as misadventures to patients during surgical and medical care or drugs, medicinal and biological substance causing adverse effects in therapeutic use.

Table 6 shows the rate of hospitalizations per 100,000 women of childbearing ages for 1996 through 1998 for some of the more common diagnostic categories excluding pregnancy and childbirth.

Table 6. Hospitalizations per 100,000 Women Age 15-44 for Non-Pregnancy and Childbirth-Related Leading Causes								
Primary Diagnosis of Hospital Discharge	1996	1997	1998					
Genitourinary System	665.3	628.8	632.7					
Digestive System	558.7	573.5	615.2					
Injury and Poisoning	503.3	494.3	496.1					
Neoplasms	305.8	328.2	328.0					
Mental Disorder	328.5	301.9	316.6					
Endocrine, Nutritional and Metabolic Disease	137.6	142.0	157.6					
Respiratory System	274.4	284.9	279.2					
Musculoskeletal System and Connective Tissue	173.1	173.2	181.8					
Circulatory	151.1	162.8	179.4					
Infectious and Parasitic	104.2	115.3	125.2					
Total population of women age 15-44	971,606	992,919	1,010,667					

blood: 280-289; mental disorder: 290-319; nervous system: 320-389; circulatory system: 390-459; respiratory system: 460-519; digestive system: 520-579; genitourinary system: 580-629; childbirth: 630-677; skin and subcutaneous: 680-709; musculoskeletal system and connective tissue: 710-739; congenital anomalies: 740-759; symptoms, signs and ill defined conditions: 780-799; and injury and poisoning: 800-999.

HOSPITALIZATIONS FOR NON-FATAL INJURY AND POISONING

Focusing specifically at hospitalizations for non-fatal injuries and poisonings for women age 15-44, it is interesting to note that only 51 percent of them could be determined to be unintentional; 15 percent were self-inflicted and approximately another four percent were the result of assaults. For 30 percent of non-fatal injuries and poisonings, the intent was either undetermined or was not classifiable within this scheme. The most common incidents causing hospitalizations for non-fatal injuries related to motor vehicles, poisonings and falls which together accounted for 52 percent of all hospitalizations for injuries for women in this age group (see Table 7).

	Table 7. Hospitalizations for Non-Fatal Injuries and Poisonings Women Age 15-44									
Mechanism	Unintentional	Self-Inflicted	Assault	Undetermined /Other	Total	Percen t				
Cut/pierce	72	83	30		185	2.5%				
Drowning/submersion	9				9	0.1%				
Fall	867	2		1	870	11.5%				
Fire/hot objects or substance	43	4			47	0.6%				
Firearm	18	11	48	5	82	1.1%				
Machinery	11				11	0.1%				
Motor vehicle traffic	1,711	1	1		1,713	22.7%				
Pedacyclist, other	35				35	0.5%				
Pedestrian, other	7				7	0.1%				
Transport	187				187	2.5%				
Natural/environment	138				138	1.8%				
Overexertion	82				82	1.1%				
Poisoning	302	1,003	1	47	1,353	17.9%				
Struck by, against	105		109	1	215	2.9%				
Suffocation	8	6			14	0.2%				
Other and unspecified	251	21	93	2,225	2,590	34.4%				
Total	3,846	1,131	282	2,279	7,538	100.0%				
Percent	51.0%	15.0%	3.7%	30.2%	100.0%					

SEXUALLY TRANSMITTED DISEASES (STD)

According to the 1998 BRFS, 17.5 percent of women ages 18-44 had ever been asked about their sexual practices by a health care provider; only 7.4 percent of women had received STD prevention counseling in the past year, and 6.5 percent received counseling in the last three years.

Based on the Office of HIV/STD from the Arizona Department of Health Services, during 1999 there were 10,929 reported cases of sexually transmitted diseases among women 15 to 44 years of age. Of the 10,929 reported cases the race/ethnicity distribution was as follows: 35 percent Hispanics, 26 percent White non-Hispanic, 15 percent American Indian, 9.4 percent African American, 0.6 percent Asian, and 24 percent were not specified. (Appendix D is a table of rates of STDs per 100,000 women of childbearing age by five-year age increments.)

HIV/AIDS

In addition to the sexually transmitted diseases mentioned above, there were 949 females age 15 to 44 reported as of February 2000 infected with Human Immunodeficiency Virus (HIV). Of the 949 females, 245 (26 percent) have died from the complications of Acquired Immuno Deficiency Syndrome (AIDS). In terms of race/ethnicity distribution, 591 (62 percent) were White, 204 (21 percent) Hispanics and 131 (14 percent) were African American. The most common risk of transmission among this group was heterosexual contact (39 percent) followed by intravenous drug use (37 percent).

GONORRHEA

Gonorrhea rates have been declining for women age 15-44 during the 1990s, and the decline is primarily due to a decrease in the rate of cases among women within youngest age groups who had especially high rates in the early 1990s. The risk for gonorrhea is highest among the youngest women and is lower for each successive age group. Figure 13 shows the trends gonorrhea rates for women age 15-44 within five-year groupings.

Figure 13. Gonorrhea Rates per 100,000 Women Age 15-44

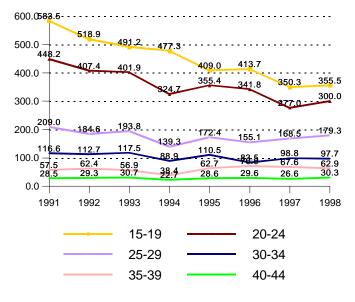
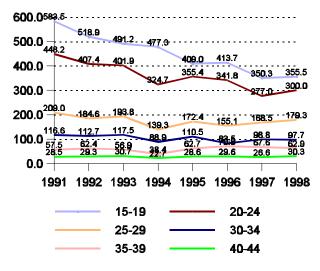


Figure 14. Chlamydia Rates Per 100,000 Women Age 15-44



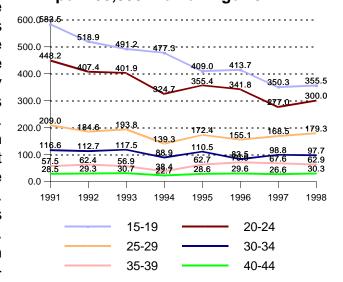
CHLAMYDIA

Chlamydia rates were high in the early 1990s among women age 15-44 and then declined for a few years until the lowest rate of 1,037.5 per 100,000 women was reached in 1994. Since then, no lasting progress has been made in reducing the overall rate. The risk for chlamydia is especially high among women in the age groups 15-19 and 20-24 and is lower for each successive age group after that. Figure 14 shows the trends in chlamydia rates for women age 15-44 within five-year groupings.

EARLY SYPHILIS

The rates of early syphilis (the stage at which the disease is contagious) were high in the early 1990s among women age 15-44 and have been steadily declining throughout the 1990s for the group as a whole. However, the decline has been the greatest within the youngest age groups who began the 1990s with the highest rates. Trends within certain age groups are not consistently declining. Figure 15 shows the trends in syphilis rates for women age 15-44 within five-year groupings.

Figure 15. Early Syphilis Rates per 100,000 Women Age 15-44



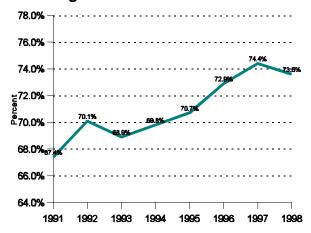
GENITAL HERPES

In 1998 there were 651 reported cases of genital herpes among women age 15-44 representing a rate of 64.4 per 100,000 women. The highest rate was reported for women age 20-24 (125.2 per 100,000), followed by women age 25-29 (82.8 per 100,000) age 15-19 (74.2 per 100,000) age 30-34 (54.7 per 100,000) age 35-39 (37.6 per 100,000) and 40-44 (24.2 per 100,000).

ENTRY INTO PRENATAL CARE AND NUMBER OF PRENATAL VISITS

In recent years, there has been a steady upward trend in the percent of women receiving early prenatal care the first trimester of (i.e.. in pregnancy) culminating in 74.4 percent by 1997. In 1998 the percent dipped to 73.6 percent (see Figure 16). The percent of women giving birth with no prenatal care increased from 1.6 percent both in 1995 and 1996 to 2.1 percent in 1998.

Figure 16. Infants Born to Women Receiving Prenatal Care First Trimester

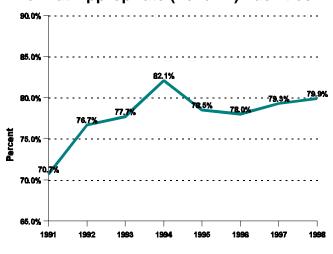


In each year from 1988 to 1998, the percent of women giving birth who had received prenatal care in the first trimester was lower in Arizona compared to the nation. While each ethnic group has experienced gains during the past ten years in the rate of entry into prenatal care during the first trimester, Hispanics (62.6 percent) and American Indians (61.2 percent) lag behind African Americans (71.4 percent) and Non-Hispanic Whites (83.5 percent). Hispanics and American Indians also reported fewer prenatal visits (10.5 and 9.5 respectively).

PLACE OF DELIVERY AND ATTENDANT AT BIRTH

Ninety-nine percent of births in 1998 occurred in hospitals, clinics, medical centers or maternity homes. Nine percent of births were delivered by midwives. Appendix E shows the percent of births occurring in hospitals and attended by midwives from 1988 through 1998. Arizona has made steady progress over the years in directing its high-risk deliveries

Figure 17. Very Low Birth Weight Babies
Born at Appropriate (Level III) Facilities



to appropriate facilities as shown in Figure 17.

PAYING FOR DELIVERY

The share of deliveries paid for by private insurance increased from 46.7 in 1996 to 47.8 in 1997, and 49.9 in 1998. In 1998 as in the 1989-1997 period, private insurance paid for the majority (68.7 percent) of deliveries to White non-Hispanic mothers. The Arizona Health Care Cost Containment System (AHCCCS) paid for 41.6 percent of the deliveries in 1998, a decline from 44 percent in 1997. American Indians had the largest share of deliveries paid for by public sources (AHCCCS or Indian Health Service) at 76.9 percent, followed by Hispanic deliveries at 60.0 percent, African American deliveries at 54.2 percent, White non-Hispanic deliveries at 26.5 percent and Asian deliveries at 19.3 percent. The Indian Health Service paid for 1.8 percent of the births in 1998, with 94.8 percent of those births to American Indian mothers. The payment source was the mothers themselves and/or their families (i.e., self-pay) in 4.4 percent of the deliveries, and the payment source was unknown for 2.3 percent of the deliveries. Seventy percent of teenage mothers' deliveries were paid for by AHCCCS, and more than 62 percent of AHCCCS mothers were unwed compared to 16 percent of women giving birth in 1998 who had private insurance coverage.

Since 1990, women who self pay for delivery have had decreased rates of early entry into care and are more likely to have had four or less prenatal visits. These women also had increases in the rates of births with reported risk factors, births with complications, births with congenital anomalies, low birth weight (LBW) and admissions into Newborn Intensive Care Units.

MEDICAL RISK FACTORS

The presence of medical risk factors during pregnancy is often indicative of the potential for adverse pregnancy outcome such as LBW and some congenital anomalies (birth defects). LBW and congenital anomalies in turn are among the leading causes of infant death. The most frequently reported risk factors in 1998 were pregnancy-associated hypertension with a rate of 27.7 cases per 1,000 live births, diabetes (23.5 per 1,000 live births), followed by anemia (18.6 per 1,000). American Indian mothers were at substantially elevated risk of having each of the three above medical conditions. The rate of diabetes for American Indian mothers was elevated to 67.6 per 1,000, the rate of pregnancy-associated hypertension was 56.0 per 1,000, and the rate of anemia was elevated to 43 cases per 1,000 live births. White non-Hispanic and African American mothers had lower rates of diabetes (19.1 per 1,000 and 19.8 per 1,000 respectively) than did Hispanic (21.3), and Asian mothers (28.6). Many of the medical risk factors are associated with elevated risk for LBW. These include hydramnios (25.9 percent of babies born to mothers with an excess of amniotic fluid were LBW), chronic and pregnancy-associated hypertension (14.8 percent were LBW), eclampsia (32.6 percent), and previous small-for-gestational-age infant (21.8 percent). In contrast, mothers who have previously given birth to an infant weighing 4,000 grams or more, were at substantially lower risk of giving birth to a LBW infant (only 3.5 percent of babies born to mothers in this group were LBW).

MATERNAL WEIGHT GAIN

Maternal weight gain during pregnancy is an important determinant of both fetal growth and birthweight. In 1990 the National Academy of Sciences recommended that weight gain be geared to the mother's weight and height and that for an optimum pregnancy outcome, an average size mother should gain 21-35 pounds during a normal pregnancy. In 1998, 18.2 percent of Arizona's women giving birth gained less than 21 pounds. Compared to Asian and White non-Hispanic mothers, African American, Hispanic and American Indian mothers were less likely to gain at least 21 pounds during pregnancy. The proportion of LBW births was 10.4 percent among mothers who gained less than 21 pounds, compared with 4.7 percent of LBW among mothers who gained at least 21 pounds.

SUBSTANCE USE DURING PREGNANCY

Cigarette smoking during pregnancy has been associated with reduced infant birthweight, intrauterine growth retardation and preterm births. Smoking during pregnancy was reported by 7.5 percent of women giving birth in 1998, compared to 15.2 percent in 1989 when these data first became available from birth certificates. It is unclear whether this decline means that women giving birth in Arizona are less likely to use tobacco during pregnancy or are less likely to report when they use it. White non-Hispanic mothers were more likely to report smoking (11.8 percent) than African American (9.8 percent), American Indian (3.7 percent), Asian (3.0 percent) and Hispanic mothers (2.6 percent).

The most notable effect of heavy maternal drinking during pregnancy is fetal alcohol syndrome, which is characterized by growth retardation, facial malformations and dysfunctions of the central nervous system. In 1998 one percent of all live births were to mothers who reported alcohol use. American Indian and African American mothers were more likely than Asian, Hispanic and non-Hispanic White mothers to report the use of alcohol (2.5 and 1.7 percent compared with 0.3, 0.5 and 0.6 percent, respectively). The rates of babies born with fetal alcohol syndrome were substantially higher among American Indian and Asian mothers (5.5 cases per 10,000 births) than they were among non-Hispanic White (1.3 per 10,000), and Hispanics (0.3 per 10,000). No cases of fetal alcohol syndrome were reported in 1998 among African American mothers.

COMPLICATIONS OF LABOR AND DELIVERY

Two complications of labor and delivery were reported at a rate greater than 25 per 1,000 live births: meconium, moderate/heavy (38 per 1,000 births) and breech malpresentation (35.2 per 1,000). Of the 15 complications, LBW infants had higher rates of 11 complications and at least 25 percent of LBW babies had five of those complications: abruptio placenta, placenta previa, seizures, rupture of the membrane and breech malpresentation.

MULTIPLE BIRTHS

Plurality is associated with LBW and 57.8 percent of all babies born in multiple deliveries in 1998 weighed less than 2,500 grams or five pounds eight ounces. Among singleton births, only 5.5 percent were LBW, while all quadruplets were.

The number of babies born in multiple deliveries increased by 51.1 percent from 1,335 in 1988 to 2,017 in 1998, the highest number ever reported. In contrast, the number of single births increased by 18.1 percent over this period. The number of twins increased by 45.5 percent, from 1,310 in 1988 to 1,906 in 1998. The number of live births in triplet and other higher order multiple deliveries rose from an average of 56 per year in 1988-1992 to the annual average of about 110 in 1995-1998. The rise in the multiple births has been associated with increased childbearing among older women and expanded use of fertility drugs. Among mothers 45 years and older in 1998, twins accounted for almost ten percent of all births.

CAESAREAN-SECTIONS

The Caesarean Section rate dropped from 19.4 percent in 1989 to a low of 16.3 in 1996, and subsequently rose to 17.1 in 1997 and 17.3 in 1998. This latest rise is the result of both a slight increase in rate of primary (or first) caesarean deliveries and an increase in the rate of repeat caesareans. The rate of caesarean deliveries for LBW infants increased from 28.1 percent in 1996 to 35.6 percent in 1998.

An analysis of hospital discharge data from 1989 to 1996 found that while the rate of caesarean sections with complications has not changed, the rate of caesarean sections without complications has dropped appreciably. During the same time period, the rate of vaginal deliveries with complications has risen from 55.5 to 80.4 per 1,000 births. It is not known if the fall in the caesarean section rates is related to the rise in complicated vaginal deliveries; however, the observation raises the question of whether decreasing the caesarean section rate is necessarily desirable.

PRE-TERM DELIVERY AND LOW BIRTH WEIGHT RATES

The incidence of births through the end of the last day of the 37th week of gestation (259th day) increased by 36.7 percent, from 12.8 percent of total births in 1988, to 17.5 percent both in 1997 and 1998. Some of the rise in preterm births can be attributed to increases in multiple deliveries.

According to vital statistics data, in each year from 1988 to 1998, the annual incidence of LBW babies was lower in Arizona compared to the nation. In 1998, 6.8 percent of the resident live births were classified as LBW (under 2,500 grams or five pounds eight ounces (see Appendix E). In absolute numbers, 1,200 more newborns were at risk of poorer medical and developmental outcomes in 1998 than in 1988. Compared to 1988, LBW babies in 1998 were more likely to be born in multiple deliveries and to have older, unmarried mothers. In Arizona and elsewhere, LBW rates have not been decreasing in recent years, despite decreasing rates of inadequate prenatal care.

A study of diagnosis codes from hospital discharge data in Arizona reflects an increase in premature, immature neonates corresponding to a steady increase in LBW rates from 60 per 1000 in 1981 to 64 per 1000 live births in 1989 to 67 per 1000 in 1998. Thus it appears that Arizona newborns are becoming smaller and more premature over time. This is happening despite increases in the proportion of women receiving adequate numbers of prenatal care visits and may be the result of fundamental societal changes such as diet, stress, smoking, drug use and changes in family structure. The rate of full term newborns with major problems has fallen somewhat during this period, as the premature/immature rates have risen. The rate for normal newborns has decreased during this time period, from 725.1 per 1000 in 1989 to 718.8 per 1000 in 1996.

Newborn Intensive Care

The number of newborns admitted to either level II or level III newborn intensive care units (NICUs) increased by 92.6 percent from 2,576 in 1989 (3.8 percent of total births) to 5,237 in 1998 (6.7 percent of all newborns). Gestational age of 37 or less completed weeks of gestation, accounted for more NICU admissions than did LBW (62.2 and 45.6 percent, respectively). Differences in NICU admissions by maternal ethnic group ranged from a low of 4.7 percent for newborns of American Indian mothers, to a high of 9.7 percent among African American newborns.

MATERNAL DEATHS

Analysis of maternal deaths based solely on death certificate data tends to under identify pregnancy related deaths. Consequently, hospital discharge data were matched to death certificate data for the 12 to 15 month period after

delivery to more fully capture maternal deaths in Arizona during 1996, 1997 and 1998.

African Americans represented 12 percent of the maternal deaths, while accounting for only three percent of births. American Indians are also over represented in death statistics, accounting for 12 percent of deaths and seven percent of births. Hispanics appear to be represented proportionately, with 36 percent of deaths and 37 percent of births. Non-Hispanic Caucasians are under represented with 42 percent of deaths and 50 percent of births.

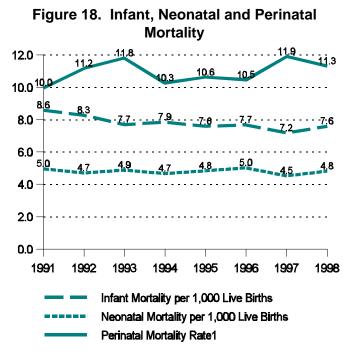
Age at time of death shows a high number of deaths occurring to women over 30 years of age. Of the 26 deaths, 16 (62 percent) were more than 30 years old. Seven (27 percent) were 35, while nine (35 percent) were 35 or older; the oldest was 39. Five (19 percent) were less than 20 years old, the youngest being 16.

Being African American, American Indian or of increased age (over 30) appears to increase the chances of maternal mortality. The three major causes of deaths are infection, hypertensive problems and pulmonary embolism. Other major causes include hemorrhage, abruptio placenta, CVA, cardiovascular, drug abuse, retained products of conception, placenta previa and inhalation pneumonitis. Lack of prenatal care may also have been contributory.

INFANT MORTALITY

Infant mortality is the number of deaths within the first 365 days of life. There were 592 such deaths in 1998, representing a rate of 7.6 infant deaths per 1,000 live births.

In 1998 there were 375 deaths within the neonatal period before the 28th day of life, a neonatal representing mortality rate of 4.8 neonatal deaths per 1,000 live births. The perinatal mortality rate is calculated by adding together the number of neonatal deaths before the seventh day plus fetal deaths, and dividing that quantity by the number of live births plus fetal deaths. In 1998 there were 288 deaths before the seventh day and 602 fetal deaths, representing a perinatal mortality rate of 11.3 per 1,000



births. Figure 18 shows the total infant, neonatal and perinatal mortality rates for 1991 through 1998. Table 8 is a summary of statistics related to each of these measures.

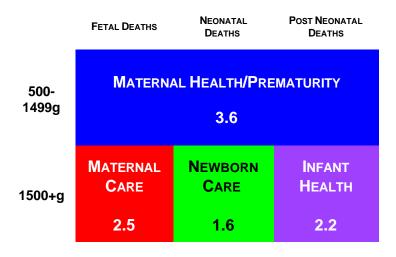
Tal	ole 8. Inf	ant, Neo	natal and	d Perinat	al Morta	lity Rates		
Frequency	1991	1992	1993	1994	1995	1996	1997	1998
Live Births	68,040	68,675	69,037	70,896	72,386	75,094	75,563	77,940
Infant Mortality (Deaths in First 365 Days)	584	568	531	557	549	576	542	592
Neonatal Mortality (Deaths < 28 Days)	338	323	337	331	350	377	342	375
Deaths < 7 Days	260	246	265	226	276	307	270	288
Fetal Deaths	422	527	556	507	497	483	637	602
Deaths < 7 Days + Fetal Deaths	682	773	821	733	773	790	907	890
Live Births + Fetal Deaths	68,462	69,202	69,593	71,403	72,883	75,577	76,200	78,542
Mortality Rates	1991	1992	1993	1994	1995	1996	1997	1998
Infant Mortality per 1,000 Live Births	8.6	8.3	7.7	7.9	7.6	7.7	7.2	7.6
Neonatal Mortality per 1,000 Live Births	5.0	4.7	4.9	4.7	4.8	5.0	4.5	4.8
Perinatal Mortality Rate	10.0	11.2	11.8	10.3	10.6	10.5	11.9	11.3

PERINATAL CARE ASSESSMENT USING CDC PERIODS OF RISK MODEL

The infant mortality rate is a useful but limited measure of perinatal health. The infant mortality rate by itself does not explain where in the perinatal health continuum risk to the infant is occurring. The Centers for Disease Control (CDC) has developed a useful model for analyzing period of risk using fetal deaths, birth weight and age at time of death. This methodology maps perinatal health into four periods of risk: maternal care, maternal health, newborn care and infant health. This allows for an evaluation of the relative importance of each period of perinatal risk so that appropriate interventions can be targeted to specific types of risk factors.⁴ Figure 19 is a map of feto-infant mortality with statewide Arizona results for 1998.

⁴ Only fetal deaths weighing more than 499 grams are used in this model.

FIGURE 19: MAP OF FETO-INFANT MORTALITY 1998: TOTAL = 9.9



MATERNAL HEALTH

All infant and fetal deaths in which the baby's birth weight is under 1500 grams are classified within the maternal health period of risk. Factors within the maternal health period of risk are the general state of the mother's health, maternal nutrition, anemia, infections before and during pregnancy, stress and work, previous pregnancy outcomes, pre-pregnancy conditions (e.g. diabetes) and tobacco and alcohol use. In 1998 the maternal health periods of risk accounted for 3.6 deaths per 1,000 births, representing the period of risk with the greatest share of the total feto-infant mortality.

MATERNAL CARE

Fetal deaths in which the weight is at least 1,500 grams are classified within the maternal care period of risk. Among the influential factors during this period are preconception care, prenatal care, nutrition during pregnancy, infections during pregnancy, recognition and management of early labor, care in a hospital providing an appropriate level of perinatal care, monitoring during labor and obstetrical expertise. In 1998, 2.5 deaths per 1,000 births were attributable to maternal care.

NEWBORN CARE

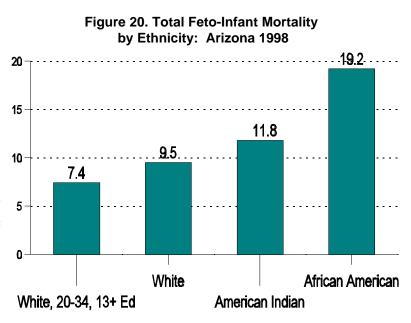
Deaths within the first 28 days of life in which the birth weight was at least 1,500 grams are attributed to newborn care. Issues related to newborn care include the quality of the hospital, level of care available, obstetrical and pediatric expertise, NICU care, regular newborn care including feeding and prevention of infections, and the recognition of emergencies. There were 1.6 deaths related to newborn care per 1,000 births in 1998.

INFANT HEALTH

Infant deaths within the first year which occur after the first four weeks of life to infants with a birth weight of at least 1,500 grams are classified in the infant health period of risk. Within this period significant factors are the prevention and diagnosis of infection, prevention and diagnosis of injury, recognition of birth defects and developmental abnormalities, prevention of SIDS and promotion of breastfeeding. There were 2.2 deaths per 1,000 births related to infant health in 1998.

RACE/ETHNICITY AND BIRTH OUTCOMES

When the CDC model is used to evaluate periods o f risk nationally, White non-Hispanic mothers aged 20-34 with more than 15 12 years of education typically have had the best birth outcomes. Comparing statistics for this group to other racial and ethnic groups provides a tool for identifying problem areas within population a n d targeting resources to strategically address them.



In Arizona in 1998, African Americans and American Indians each had feto-infant mortality rates that exceeded the statewide average of 9.9 deaths per 1,000 births (see Figure 20). Whites in general had a feto-infant mortality rate of 9.5 per 1,000, while white women giving birth between the ages of 20 and 34 with more than 12 years of education had a feto-infant mortality rate of only 7.4 per 1,000 in 1998.

In order to target interventions aimed at reducing mortality within racial and ethnic groups at higher risk, it is useful to evaluate the periods of risk within each group (see Figure 21). African Americans are at much higher risk during

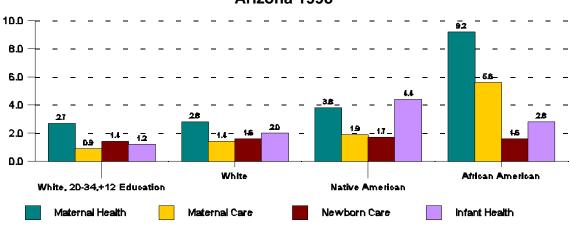


Figure 21. Perinatal Periods of Risk Arizona 1998

the maternal health and maternal care periods than during any other period, and this risk is higher for African Americans than for any other group. American Indians have higher risk during the infant health and maternal health periods of risk.

It appears from this analysis that the general health of women of childbearing age must be addressed to effect a significant reduction across racial and ethnic groups in feto-infant mortality. This finding is consistent with other findings of increasing rates of prematurity, LBW and VLBW. Little is known about the causes for these increasing rates and even less is known about what things might be done to prevent prematurity and LBW. The association of race/ethnicity and birth outcomes, particularly birth weight, has been known and examined for some time, particularly the differences between White and African American infants. The high rate of LBW infants for African American mothers continues to be a puzzle. Studies that have controlled for socioeconomic differences, prenatal care and other confounding factors continue to show a higher LBW rate for African Americans than Whites. Hypotheses to explain the differences include inter-generational accumulative changes due to factors such as poverty, stress, poor diet, and lack of care. This view appears to be gaining currency, but a great deal of research needs to be done before it can be accepted with certainty and appropriate changes made where possible.

There are some clues provided by what is known about differences in lifestyle between American born and immigrant women. It is known that immigrant women of all ethnic groups who deliver in the U.S. have better outcomes than their U.S. born counterparts. Hispanic foreign born women have good birth outcomes despite poor prenatal care. It has also been shown that immigrant Hispanic women have better nutrition, smoke less, use illicit drugs less, work less, have better family support, have greater religiosity, fewer unwed births and

less stress compared to their U.S. born counterparts. It is not known for certain the degree to which these factors affect mortality. Guendelman and Abrams⁵ have noted the change in dietary habits of Hispanic women who have begun to loose their traditional lifestyles as they adopt the American culture (a process called acculturation). Magna and Clark⁶ document the effect of spirituality on positive pregnancy outcomes. This spirituality, and its resultant positive health behaviors, seems to decline with acculturation also. As these women become acculturated, or Americanized, they begin to have perinatal experiences that are more similar to their American born counterparts. It would be useful to determine why foreign-born women have better perinatal outcomes and apply that knowledge to the population at large.

Successful prevention efforts to date have been limited to smoking prevention and cessation, with efforts to improve nutrition and reduce infections during pregnancy showing some promise. Between 1990 and 1996 considerable effort was spent on increasing the availability and utilization of prenatal care. The result has been an increase in prenatal care given without much of a decrease in LBW and VLBW births. Prenatal care cannot totally eliminate the incidence of LBW. If fact, over the past twenty years there is still a net increase in the percent of babies born with low birth weight. It appears that providing early and adequate care can reduce the incidence to about 109 per 1,000 for African Americans, 51 per 1,000 for foreign born Hispanics and overall 62.8 per 1,000 for Arizonans overall.

As is amply demonstrated by births to foreign born Hispanics, many other factors largely unknown are at least as important as prenatal care. A great deal of emphasis needs to be placed in this area for future research. As we move into the next century prenatal care needs to be provided to all women, including dietary and psycho-social support; the other largely unknown factors can be dealt with best hand in hand with quality prenatal care.

⁵ Guendelman S and Abrams B: "Dietary intake among Mexican-American women: generational differences and comparison with white non-Hispanic women", <u>American Journal of Public Health</u>, 85, (1995), 20-25.

⁶Magana A and Clark NM: "Examining a paradox: does religiosity contribute to positive birth outcomes in Mexican American populations?", Health Education Quarterly, 22, (1995), 96-109.

GENERAL HEALTH

Based on the Children 2000 survey, 87 percent of children's health was described as either excellent (63.1 percent) or very good (24.1 percent) by the person responsible for their care. Another 10 percent had health described as good. Three percent of children had health described as either fair or poor.

SPECIAL HEALTH CARE NEEDS

Children with special health care needs were identified through a survey designed to assess how well they can perform activities of daily living as opposed to relying on diagnostic information (Children 2000). Through this assessment, 26.8 percent of households with children had at least one child with a special health care need. Overall, 12.3 percent of children were determined to have a special health care need.

Family surveys are an ongoing way for OCSHCN to learn about its population. A survey of 481 members of 11 different communities found that CSHCN had received one or more of the following services on a regular basis: physical therapy 44 percent, speech or language therapy 77 percent, occupational therapy 37 percent, orientation and mobility training 14 percent, and vocational rehabilitation eight percent. These services were expected to continue for at least one year. During the last year, families had an average of two hospitalizations and three emergency room visits. Seventy-four percent of the families reported that their child needed medical, health-related, or mental health services and were not able to get the needed care.

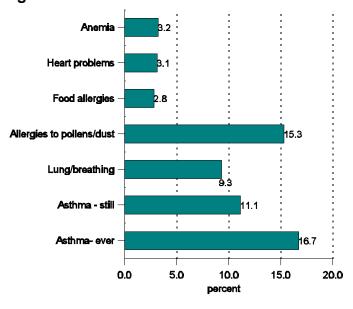
A majority (68 percent) of children with a condition or symptoms were diagnosed within the same year of symptom onset, but 32 percent of the children were diagnosed at least one year after symptoms began. Of the 481 participants, 255 (54 percent) have at least one condition that limits their daily activities. Of the 255 children, 67 percent were reported to have a medical, behavioral or other health condition that prevents or restricts them from activities that other children his or her age usually perform. Twenty-seven percent reported difficulty eating without assistance, 44 percent difficulty seeing without assistance, 19 percent difficulty hearing without assistance, and 49 percent have a serious delay in mental or emotional growth. Cerebral palsy was the most commonly reported condition (15 percent) among the last community surveyed.

Thirty-six percent of children needed at least one piece of special equipment to help them in their daily activities, and seven percent were unable to get the equipment they needed. The most needed equipment was to help them see. Two key findings of the OCSHCN Family Survey related to optimism about the future of the child with SHCN. Need for community service (e.g., health care providers, respite care) was found to have a statistically significant association with optimism of the family towards the child's social and economic future. Those that are not optimistic are almost 50 percent more likely to need some type of help with community services than those that are optimistic. Another variable that shows a statistically significant association with optimism was the number of years with the condition. If the child had less than ten years with the condition, the family seemed to be less optimistic about the child's future.

CHRONIC CONDITIONS

Based on the Children 2000 children under age 21 were asked whether a doctor had ever told them that their children had certain chronic The conditions. most commonly reported conditions were asthma, allergies to pollens and dust, and lung and breathing problems in Seventeen percent general. of children had been told by a doctor that they had asthma at some time and eleven percent of children were reported to still have it. Fifteen percent of children had allergies pollens and dust, and nine

survey, primary caregivers of Figure 22. Prevalence of Chronic Conditions



percent had conditions which were described as lung or breathing problems. Thirty-one percent of children live in a household with a smoker (see Figure 22).

Approximately three percent of children in Arizona have been diagnosed with anemia at some time, three percent have food allergies, three percent had heart problems; and fewer than one percent of the population of children had ever been told by a doctor that they had diabetes, cancer, arthritis/rheumatism, high blood pressure, or a stroke problem.

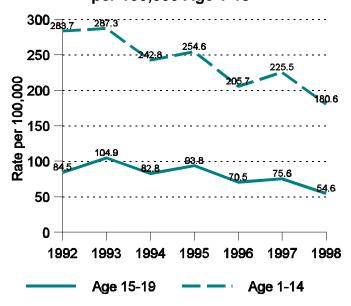
Asthma and diabetes are emerging as chronic health concerns for children and adolescents in Arizona. While the actual rate of hospital admissions for asthma is decreasing this may reflect the increase in early detection, prevention and education programs.

ASTHMA

In 1998 there were 1,788 admissions for asthma. representing a rate of 180.6 hospital admissions per 100,000 children age 1-14. This was the lowest admission rate from 1991 through 1998. The 1998 rate of 229.9 per 100,000 males age 1-14 was nearly two times higher than the female rate of 126.5 per 100,000 females age 1- 14 for hospital admissions.

In 1998 there were 179 hospital admissions for adolescents aged 15-19 with a

Figure 23. Hospital Admissions for Asthma per 100,000 Age 1-19



diagnosis code indicating asthma, representing a rate of 54.6 admissions per 100,000. The 1998 rates for both males and females were the lowest in the entire 1991-1998 review period. Female adolescents have had consistently higher rates of asthma-related admissions than males. In 1998 the female rate of 70.3 per 100,000 was over 70 percent higher than the male rate of 40.5 per 100,000 (see Figure 23). See Appendix F for a profile of asthma-related hospital utilization for children age 1-14 and adolescents age 15-19 respectively.

DIABETES

Measuring the incidence of diabetes in children and adolescents in Arizona is difficult because there is no one central collection source. The data presented on hospital admissions reflects admissions related to diabetes where diabetes is either the admitting diagnosis or is a complicating factor of the admission. This does not account for the general overall prevalence. The Arizona Department of Health Services (ADHS) Hospital Discharge Data Base (which is the source for this analysis) does not contain federal facilities data such as Indian Health Service and Veterans Administration. Hospitalizations for American Indians are counted only if they received treatment in one of the hospitals reporting to ADHS.

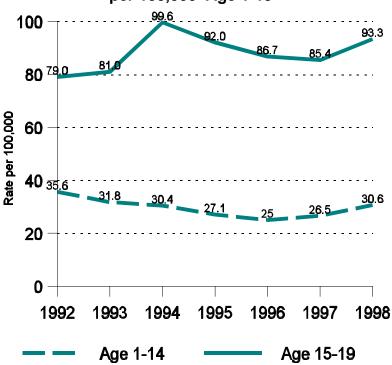
In 1998 there were 301 hospital admissions for diabetes among children age 1-14 representing a rate of 30.6 admissions per 100,000. In 1998 there were 306 hospital admissions with a diagnosis code indicating diabetes among

adolescents age 15-19, representing a rate of 93.3 admissions per 100,000 adolescents. Females had consistently higher rates of hospitalizations for diabetes than males in all years reviewed (see Figure 24). Appendix F profiles hospital utilization for diabetes for children age 1-14 and adolescents age 15-19 from 1991 through 1998.

WELL-BEING AND THREATS TO WELL-BEING IN HOME ENVIRONMENT

Based on the Children 2 0 0 0 survey,

Figure 24. Rate of Hospitalization for Diabetes per 100,000 Age 1-19



approximately three percent of children in Arizona live in a household where some child has been treated in a way that the survey respondent considered abusive by an adult they had lived with. Seven percent of children live in a house with no working smoke detector, and 36 percent of children live in a house with firearms in or around it. In the United States, 35 percent of U. S. homes with children have at least one firearm, and nearly half of them keep the weapons unsecured ⁷

Thirty-eight percent of respondents in households with children under age five say that some child in their household is cared for regularly by someone who lives outside of their home. Eighty-six percent of them are very satisfied with the quality of their daycare arrangements. Thirteen percent are somewhat satisfied, and one percent are not at all satisfied.

The children 2000 survey asked people who took care of children whether they had adequate support systems. Fifty-eight percent of the children are cared for by people who say that they are always able to get the help that they need with their kids. Another 25 percent are cared for by adults who say that they are able to get the help that they need most of the time, and 15 percent say that they get

⁷Schuster, Todd M. Franke, Amy M. Bastian, Sinaroth Sor and Neal Halfon, "Firearm Storage Patterns in US Homes with Children" American Journal of Public Health 90:4, April 2000.

the help they need sometimes or rarely. Only two percent said that they are never able to get the help they need. On the other hand, only 12 percent of children are cared for by people who say that they always have enough time for themselves, with another 24 percent saying that they have enough time for themselves most of the time. Thirty-four percent of children are cared for by adults who sometimes have enough time for themselves. Thirty percent of children are cared for by people who say that they rarely or never have enough time for themselves.

Six percent of children live with caregivers who felt sad, blue or depressed for at least 26 of the last 30 days. Thirty percent lived with caregivers who said that they felt that way from one to five days, and 54 percent of children live with caregivers who said that during the past 30 days they never felt sad, blue or depressed

Seven percent of children live with caregivers who say that they have been treated in a way they considered physically or emotionally abusive by their family or someone they lived with. Most often, the abuser was their spouse. Four percent of children live with caregivers who have been subject to physical violence from someone other than a person living with them

Twenty-five percent of children live with a caregiver who said that in the past 12 months they had a problem that they would have liked to talk to a mental health professional about. Two percent seriously considered attempting suicide and nearly one (0.7) percent said that they actually did attempt suicide.

NUTRITION

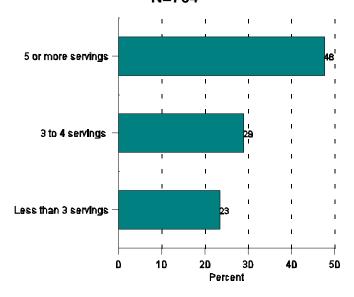
Doctors had told caregivers that approximately seven percent of the children were overweight, while caregivers worried that eight percent were overweight. Doctors had told caregivers that 1.4 percent of the children had eating disorders, while caregivers worried that 3.5 percent of the children may have an eating disorder. Two percent also reported that someone other than a doctor had expressed concern that the child had an eating disorder.

Survey respondents were asked how often children eat breakfast, drink milk and fruit juices and eat fruits, vegetables, and other dairy products. Most children (88 percent) eat breakfast every day, while eight percent eat breakfast only on some days. Only four percent of the children eat breakfast either rarely, never, or on weekends only.

A relatively high proportion of children consume adequate amounts of dairy and

fruits. Seventy-nine percent of children had at least two servings of milk and other dairy products per day, and 75 percent of children consumed at least two servings of fruits and/or fruit juices each day. Although it is important that children get at least two servings of fruit per day, excessive intake of fruit juices in particular may replace other foods in a child's diet and lead to nutritional deficits. Seven percent of children were reported to drink more than four servings of fruit juices Only 17 percent of daily. children were reported consume at least three vegetables per day. Based on

Figure 25. Percent of Children Receiving Servings of Fruits and Vegetables per Day N=764



the caregivers information almost 50 percent of the children eat five or more fruits and vegetables per day, (48 percent) however, 23 percent of the children eat less than three servings of fruits and vegetables per day (see Figure 25).

ORAL HEALTH

According to the National Health Interview Surveys, parents report more unmet dental needs than any other health need for their children. Healthy People 2000 showed that more than half of six to eight years old had experienced tooth decay. Health People 2010 shows that disparities in both childhood dental disease and access to dental care exist.

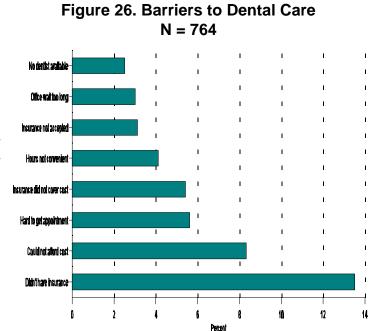
Since the 1970s, the cases of tooth decay in permanent teeth have declined dramatically among school-aged children. This decline is the result of various prevention methods including community water fluoridation and increased use of toothpastes and rinses that contain fluoride. However, dental caries remains a significant health problem in some populations, particularly certain racial and ethnic groups and poor children. Healthy People 2010 identifies levels of untreated tooth decay in African American, Native American, Asian and Hispanic children as significantly higher than white children.

The Children 2000 survey found that 68 percent of children had some kind of dental insurance.⁸ Fifty-nine percent of them had coverage for preventive services, 53 percent for restorative service, 35 percent for orthodontics and 48 percent had emergency dental coverage. The survey revealed the following regarding last dental visit for children under age 21 years:

- 72% had received some kind of dental care within the past year
- 16% had received dental care in the past one to three years
- 8% had not received dental care in more than three years
- 4% had never received dental care

Sixty-four percent of children had their teeth cleaned by a dentist or dental hygienist within the past year. For 12 percent of the children it had been longer than a year, and 25 percent of the children had never had their teeth cleaned by a dentist or dental hygienist.

When they need dental care, 80 percent of children go to a private dental office and another 12 percent go to public health clinics. Most caregivers felt that their dentists were either very willing (86 percent) or somewhat willing percent) to deal with the special needs of their children, and most were either very satisfied (76 percent) or somewhat satisfied (17 percent) with their children's dental care.



Twelve percent of children had gone without needed

dental care within the past 12 months. A list of potential barriers to dental care were read to respondents, and they were asked to indicate whether they had experienced any of these difficulties when they tried to get needed dental care during the past year. Figure 26 shows barriers most commonly experienced and the percent of children experiencing each barrier during the past year. Fewer than two percent indicated that they had the following problems: language barriers, family objected to treatment, don't like/trust/believe in dentists, fear, apprehension, nervousness, family care hard to arrange, or transportation.

⁸It is important to note that this number is likely an over-estimate because a telephone survey will not reach those residents who do not have a telephone and people without phones are likely to have lower income levels and are probably less likely to have health insurance.

Children covered by AHCCCS have dental insurance as part of their benefits package and AHCCCS has an annual performance measure evaluating the percent of children age three through 20 who are enrolled throughout the year who have received dental services. For the year ending September 30, 1998, 39.8 percent of children received at least one dental visit for some kind of service representing an improvement rate of 20.3 percent over the previous year. Additionally, most of the members' visits (approximately 99 percent) had a preventive component. In 1998 AHCCCS showed its first significant improvement in the rate of children receiving dental visits and the improvement was evident in all counties.

Arizona children suffer from a high rate of tooth decay. This preventable health problem begins early in childhood. For children ages six months to two years, five percent have experienced tooth decay. By the time children reach 11 to 13 years, over 65 percent have experienced tooth decay. As children age, the proportion with tooth decay increases. The proportion of children in Arizona ages six to eight years with tooth decay is 60 percent, which exceeds the national level of 52 percent. Untreated tooth decay is also high in Arizona children. Over 43 percent of Arizona children ages six to eight have untreated tooth decay compared to 31 percent of children in the same ages nationally. This is more than twice the Healthy People 2000 goal of 20 percent.

Healthy People 2000 set a goal that 50 percent of children have dental sealants. Despite the documented effectiveness, less than 11 percent of Arizona children have dental sealants which is below the national average of 21 percent. Dental diseases remain the most common chronic and infectious diseases experienced by Arizona children. Additional efforts and expansion of current initiatives are needed to improve the oral health for children.

PHYSICAL ACTIVITY

According to the findings of a World Health Organization report on health behaviors among young people, ⁹ students in the United States exercise less and eat a less healthful diet than children in most other countries. Two-thirds of American students reported exercising for more than two hours a week.

Physical inactivity has been the number two preventable cause of death because of its role as a primary risk factor for cardiovascular disease. Between children and teens, lack of physical activity is considered to be the primary cause of the rising childhood obesity rates. In January 1997 ADHS developed and implemented the Promoting Lifetime Activity for Youth (PLAY) program,

⁹ Currle, Candace. Hurrelmann, Klaus. Settertobulte, Wolfgang. Smith, Rebecca and Joanna Todd, "Health and Health Behaviors Among Young People" WHO Cross-National Study (HBSC) International Report

targeting physical activity to the young. The PLAY program focuses on youth in fourth through eight grades. As of May 1999 there were 13 counties participating in the program, 159 schools and 900 teachers trained for a total of approximately 24,000 participants.

From the analysis of the PLAY data it was determined that 81.6 percent of the students are physically active for 30 minutes or more during the school day and 88 percent of the students reported physical activity during the weekend for 30 minutes or more. Eighty-two percent of the fourth graders agreed that they had become more active as a result of PLAY. Even though the percent of students in eighth grade was lower (52 percent) than for other grades, the majority of students (more than 50 percent) in all grades agreed that they have become more physically active through the PLAY program.

Measures of both activity and inactivity were included in the survey battery for Children 2000. Thirty-six percent of the children were described as being very active in organized/team sports and another 27 percent were reported to sometimes participate. Thirty-seven percent do not usually participate. Forty-three percent of children were physically active for more than two hours each school day, and another 22 percent were active for one to two hours. On weekends, 79 percent of children were physically active for more than two hours, with an additional eight percent being physically active for one to two hours. Of concern, however, are the nine percent of children who engage in no physical activity during the week, and no physical activity on the weekend.

Approximately 12 percent of children spend more than 20 hours per week watching television while sitting or lying down and three percent use a home computer for more than 20 hours per week. Nine percent of children spend more than 30 hours per week in some combination of TV viewing and home computer use.

Newborn Screening

The Newborn Screening (NBS) Program within ADHS/OWCH is responsible for identifying babies who have some types of serious medical conditions. Finding these babies and giving them early treatment can prevent serious problems such as mental retardation or even death. The NBS Program contacts with the Arizona State Laboratory to perform testing of newborn screening specimens for Phenylketonuria (PKU), Biotinidase Deficiency, Maple Syrup Urine Disease, Galactosemia, Congenital Hypothyroidism (CH), Hemoglobinopathies, and Homocystinuria. Congenital Adrenal Hyperplasia (CAH) may be added in 2001. Additional program activities include coordination with consulting specialists, physicians, and hospitals; follow-up of abnormal test results; education of health professionals and the general public; and monitoring of data associated with testing, billing for tests, follow-up and educational activities.

There continues to be an impact of early discharge (less than 24 hours) on the reliability of first specimen test results. The plan is to mandate a second specimen, with a combined fee for both tests, through a revision to the rules/statute. An identified program priority is to interface the NBS data management system with electronic birth certificates to more accurately determine the percentage of newborns who receive a newborn screen and the compliance of participating hospitals.

VISION AND HEARING

Sensory impairments can have devastating effects on academic achievement, social, behavioral and communication development. Early identification and intervention can prevent some permanent disabilities and lessen the long term impact. In 1999, 66.7 percent of newborns were screened for hearing impairment before hospital discharge, representing a 71 percent increase over 1998. The 1998 rate had increased by 78 percent over the rate in 1997. These increases are the result of a grant by the St. Luke's Health Initiatives to the EAR Foundation that funded equipment and technical assistance for an additional 16 hospitals to implement newborn hearing screening. The numerator for this measure represents only the number of confirmed cases from 32 hospitals reporting data. There are actually 51 hospitals that have universal screening programs and these hospitals represent 87 percent of births (see Appendix A, Performance Measure Number 10).

The OWCH administers the statewide Sensory Program. The School Hearing Conservation Program (HCP), School Vision Program and Early Identification of Hearing Loss Program (Never Too Young or NTY) were combined in 1992 to form the Sensory Program. The common goals of the three programs are early identification of sensory impairments and appropriate referrals.

While the number of students reportedly screened in 1999 was somewhat less than in the previous year (457,689 in 1999 compared to 524,576 in 1998), this was most likely due to a change in the reporting format. Review of the 1999 data showed five percent more schools reporting in 1999 and 92 percent of students in kindergarten, first, second and sixth grades were screened statewide including private, public and charter schools.

MEDICAL HOME

There has been much interest in the concept of a medical home in Arizona, and significant attempts have been made to begin to define and measure it. The American Academy of Pediatrics states that medical care should be,

- Accessible, continuous, and compassionate,
- Delivered or directed by well-trained physicians who are able to manage or facilitate essentially all aspects of pediatric care, and

 The physician should be known to the child and family and should be able to develop a relationship of mutual responsibility and trust with them.

Survey items were developed which correspond to various aspects of medical home in the form of statements to which respondents were asked to indicate the extent of agreement. Table 9 is a summary of the valid and missing cases for these items. The "percent of valid cases" indicates what percent of respondents answered "very much," "somewhat," or "not at all" to each item as a percent of those who gave one of these responses. In other words, percents are calculated leaving the "don't know" and "not applicable" responses out. "Not applicable" and "don't know" responses are considered to be missing cases. The percent of cases which were missing is shown in the final column and gives an indication of which items were more difficult for people to relate to for some reason.

	Percer	t of Valid (Cases	Missing
Table 9. Components of Medical Home	Agree Very Much	Agree Some- what	Agree Not at all	Missing Cases as % of Total
1. Child's health care provider is well prepared to deal with the types of health care problems that (he/she) has.	86.5%	12.4%	1.1%	6.9%
2. Child's health care provider is well trained in the types of health care needs that (he/she) has.	89.5%	9.1%	1.4%	6.2%
3. Child's health care provider is willing to treat all of (his/her) health care needs.	88.7%	9.7%	1.6%	6.5%
4. Child's health care provider knows (him/her) well.	63.1%	26.7%	10.2%	7.3%
5. Child's health care provider knows (his/her) family.	58.3%	28.0%	13.6%	6.7%
6. Child's health care provider cares about how medical issues affect (his/her) family.	76.3%	17.9%	5.7%	13.6%
7. Child's health care provider understands how medical issues affect (his/her) family.	79.1%	16.7%	4.2%	13.2%
8. Child's health care provider communicates with other systems that provide services to (him/her).	77.5%	17.5%	5.1%	20.8%
9. Child's health care provider cares about (him/her) as a person.	84.5%	13.1%	2.4%	8.4%
10. I trust child's health care provider to make the best decisions for (his/her) medical care.	82.1%	15.0%	2.9%	5.5%
11. Child's health care provider encourages me to be responsible for (his/her) health care.	88.9%	7.9%	3.2%	7.2%
12. Child's health care provider answers all of my questions in ways that I can understand.	85.4%	12.4%	2.2%	5.7%
13. I am an active participant in decisions that affect child's health.	96.1%	2.9%	1.0%	4.3%
14. Child's health care provider respects my role in decisions that affect (his/her) health.	93.3%	5.9%	0.7%	7.6%
15. I usually see the same health care provider for all child's health care needs.	81.2%	14.2%	4.6%	6.2%
16. When child is sick, I can get a doctors appointment within a day or two.	83.9%	12.0%	4.1%	5.7%
17. When I want a checkup for child, I can get a doctors appointment within a few weeks.	86.8%	10.5%	2.7%	6.2%
18. I am satisfied with child's current health care.	86.2%	10.8%	3.0%	5.3%

USUAL SOURCE OF HEALTH CARE

Ninety-one percent of children have a place to which they usually go for health care. Of those that do not have a usual place, the reason for 36 percent of the children was that they either have no insurance or cannot afford health care. Another 44 percent were reported to have not needed a doctor.

Seventy-two percent of the children most often get their care in a doctor's office or HMO, and an additional 20 percent go to a clinic or health center. Approximately five percent of children most often go to the hospital for health care to either the emergency department or as a hospital outpatient. Three percent of children go to some other place most often. Respondents were asked where the children go for routine preventive care. Ninety-four percent went to the same place for routine preventive care as the place they went most often.

During the past year, 15 percent of children had changed where they went for health care. For those who changed, the reason cited most often was that they had moved (44 percent). Thirty-seven percent cited health insurance as the reason, and 15 percent cited dissatisfaction with provider. Two percent of children changed where they went for health care because of family problems, and three percent changed because of transportation issues.

Sixty-five percent of children have been seeing their current provider for at least one year (see Table 10). Ninety-five percent would like to continue to see the same provider.

Table 10. How Long Seeing Current Provider						
Percent Cumulative Perce						
More than 5 years	20.7%	20.7%				
3-5 years	21.2%	41.9%				
>1 < 3 years	23.4%	65.3%				
6 months - 1 year	16.6%	81.9%				
Less than six months	18.1%	100.0%				

SERVICE UTILIZATION

According to the report of children's care-givers in a recent survey (Children 2000), 80 percent of children had at least one visit to a health care provider, and 76 percent had a routine checkup within the past 12 months. Sixty-six percent of children had a well-child visit which was described as a visit where the doctor does a physical examination, measures the child's height and weight, and talks to the care-giver about nutrition and the child's behaviors.

AHCCCS Administration publishes several performance indicators measuring its progress against standards for well-baby and well-child visits. The measures focus on continuously enrolled members during defined review periods and use AHCCCS claims and encounters to assess the number of well-child visits.

On October 1, 1997 AHCCCS adopted a new pediatric wellness schedule for well-child visits requiring six well-child visits in a child's first year of life. (Previously, the periodicity schedule had required five visits.) An annual visit is required for children ages three, four, five and six. The periodicity schedule requires a well-care visit every two years for adolescents who are age 11 through 20. However, the AHCCCS membership within this age group is not stable. Consequently, AHCCCS monitors the percent enrolled for one year who received at least one visit within the past year as well as the percent enrolled for two years who received at least one visit within the past two years. AHCCCS reports these measures for the group as a whole as well as separately for ages 11 through 15 and ages 16 through 20. Table 11 below shows the percent of infants, children and adolescents of various ages that met AHCCCS standards for well care among the continuously enrolled population.

Table 11. AHCCCS Well-Care Measures								
Age	Number of Visits	1998	1997	Percent Increase				
First 15 months of life	≥5 in 1 st 15 months	61.21	56.64	8.1%				
First 15 months of life	≥6 in 1 st 15 months	42.46	38.34	10.7%				
3-6 Years	≥1 during year	45.96	47.05	-2.3%				
11-20 years (enrolled for 1 year)	≥1 during year	27.53	na					
11-20 years (enrolled for 2 years)	≥1 past two years	45.4	na					
11-15 (enrolled for 1 year)	≥1 during year	31.02	na					
11-15 (enrolled for 2 years)	≥1 past two years	48.61	na					
16-20 (enrolled for 1 year)	≥1 during year	16.76	na					
16-20 (enrolled for 2 years)	≥1 past two years	33.26	na					

Twenty-two percent of the children had been treated in the emergency room during the past year, and seven percent had been hospitalized, according to survey respondents. Questions were asked about the use of treatments which may be described as alternative to the type of treatments that are most commonly used by medical doctors. During the past year, three percent had seen a chiropractor, two percent of the children had received massage, two percent had seen a naturopath/homeopath, and fewer than two percent had been treated by an herbalist, acupuncture/accupressure, aroma therapy, psychic massage, or a curandero/medicine man/faith healer.

CHILD ABUSE AND NEGLECT

In 1998, 28 children age 0-14 died as the result of abuse, neglect, and/or maltreatment, representing a rate of 2.6 deaths per 100,000 children. Appendix H details the number of deaths attributed to child abuse and neglect from 1991 through 1998, and the rates per 100,000 children age 0-14.

In 1999 Child Protective Services received 46,082 communications, 32,631 of which met the statutory criteria of a report of maltreatment and were deemed appropriate for investigation. Of these 26,432 cases were actually investigated and 3,629 cases were substantiated as child abuse or neglect. This represents a child abuse rate of 0.3 substantiated cases of abuse and neglect per 100 children age 0-17.

Appendix G shows the number and rate per 100 children of reported cases, those which were deemed appropriate for investigation, actually investigated, and substantiated from 1990 through 1999. Beginning in November of 1994, CPS centralized its intake staff and began to use a standardized set of screening questions to determine if the information provided by a caller is sufficient to be counted as a report. This change in procedures limits the comparability of data before 1995 to more recent data.

In 1998 there were 43 admissions for children age 1-14 for conditions related to abuse or neglect, representing a rate of 4.4 admissions per 100,000 children. Four of these children died before being discharged from the hospital. Appendix F profiles hospital utilization for abuse and neglect for children age 1-14 for 1991 through 1998.

In 1998 there were four admissions for abuse and neglect among adolescents age 15-19, representing a rate of 1.2 admissions per 100,000 adolescents. There were no deaths associated with these hospitalizations. Appendix F profiles hospital utilization for abuse and neglect for adolescents age 15-19 for 1991 through 1998.

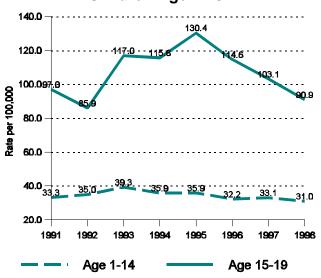
MORTALITY RATES AND MAJOR CAUSES OF DEATH

In 1998 there were 305 deaths among children age 1-14, representing a rate of 31 deaths per 100,000 children, the lowest rate observed throughout the 1990s. The five leading causes of death accounted for 67.5 percent of the deaths.

Unintentional injuries alone accounted for 41.0 percent of deaths (with 51.2 percent of these related to motor vehicles), followed by homicides (8.2 percent), malignant neoplasms (7.2 percent) infectious diseases (6.2 percent) and congenital anomalies (4.9 percent). Males have had higher mortality rates in each year from 1991 through 1998.

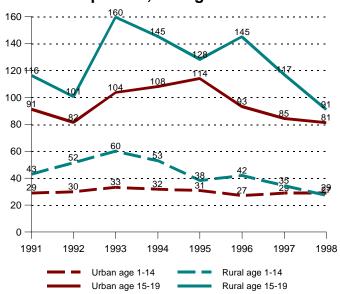
Among adolescents in 1998 there were 298 deaths, representing a rate of 90.9 deaths per 100,000 The five leading adolescents. causes of death accounted for a full 85.9 percent of the deaths. Unintentional injuries accounted for 44.0 percent of the deaths (with 80 percent of these related to motor vehicles), followed homicide (18.5 percent), suicide percent), malignant (16.8)neoplasms (4.0 percent) and illdefined conditions (2.7 percent). Mortality rates for male adolescents consistently are higher than for females, with male mortality rates more than two times

Figure 27. Mortality Rates per 100,000 Children Age 1-19



higher than female rates in 1998 (see Figure 27).

Figure 28. Urban vs. Rural Mortality Rates per 100,000 Age 1-19



Mortality rates have been consistently higher for children 1-14 living aged in counties compared to urban counties throughout 1990s. Urban mortality rates during this period have been relatively stable, while rural rates peaked 1993 and have been generally declining since then. The rural rate appears to be lower than the urban rate in 1998; however, high proportion of records with an unknown county in affected the calculations for urban and rural mortality rates, causing the anomaly that each

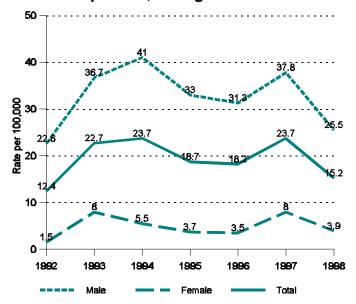
appears to be lower than the statewide average rate, which would not be possible if all of the records were properly classified. Adolescent mortality rates in rural counties have remained higher than in urban counties throughout the 1990s. Figure 28 shows the mortality rate for children aged 1-14 and 15-19 in Arizona generally, for males and females, and for children in urban and rural locations from 1991 through 1998 (see Appendix H).

SUICIDE

There were 12 suicides in 1998 in the 1-14 age group, all of which fell within the age 10-14 age group, representing a rate of 3.5 suicides per 100,000. The suicide rate for the 10-14 age group has ranged from a low of 0.9 per 100,000 in 1985 to a high of 3.9 per 100,000 in 1993. Appendix H is a profile of suicide mortality information for children age 10-14.

In the 15-19 age group, suicide rates between 1992 and 1998 have ranged from a low of 12.4 suicides per 100,000 in 1992 to a high of

There were 12 suicides in Figure 29. Adolescent Suicide Mortality Rates 1998 in the 1-14 age group, all per 100,000 Age 15-19



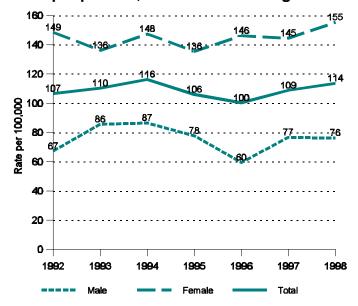
23.7 suicides per 100,000 in 1994 and 1997. The 1998 rate of 15.2 represents a 35.9 percent decrease from the 1997 rate (see Figure 29). The suicide rate for males is consistently far higher than the rate for females. In 1998, the suicide rate for males was 25.5 per 100,000, more than six times higher than the rate for females which was only 3.9 per 100,000.

From 1990 through 1994, adolescent suicide rates were markedly higher in rural than in urban counties. Since 1995 rural and urban rates have been very similar. In 1998, a high proportion of missing data for county location yields anomalous urban and rural comparison rates which each appear to be lower than the overall state rate. Appendix H contains a summary of suicide mortality statistics for adolescents age 15-19.

In 1998 there were 112 hospital stays which included a diagnosis code indicating a suicide attempt, one of which resulted in death before hospital discharge. This represents a rate of 32.6 hospital admissions per 100,000 children age 10-14 in 1998, which is almost 50 percent higher than the rate of 22.0 in 1997. Hospitalization rates for female suicide attempts from 1991 to 1998 are consistently higher than hospitalization rate for males. Appendix F is a profile of hospital utilization from 1991 through 1998 for suicide-related diagnoses for children age 10-14.

373 1998 there were admissions hospital for adolescents which included a diagnosis code for suicide. five of which resulted in death upon discharge. The 1998 admission rate was 113.7 admissions per 100.000 adolescents. This is the of highest rate admission since 1994. Admissions for suicide attempts have been higher for females than males each year and in females had a rate twice as high as males (see Figure 30). Appendix F contains a profile of hospital utilization from 1991 through 1998 for

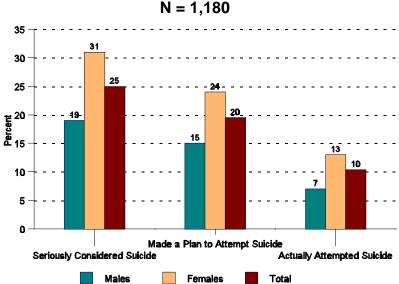
Figure 30. Hospitalization rates for suicide Attempts per 100,000 Adolescents age 15-19



the suicide-related diagnoses for children age 15-19.

The indicators of suicide mortality and morbidity focused on suicide attempts which were either successful, or sufficiently serious to result in an inpatient hospitalization. It is clear that not all who contemplate suicide will actually attempt it, and not all suicide attempts will require inpatient hospitalization. The risk of suicide is addressed in this section as the percent of children who report seriously considering suicide and who report attempting suicide.

Figure 31. Percent of Students at Risk of Suicide Grades 9-12: 1993



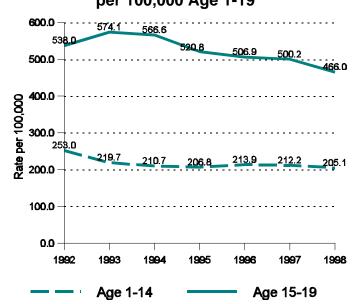
Prior studies among Arizona high school students indicate that 10.4 percent adolescent students had attempted suicide in the 12 months prior to interview. Of these. 33.7 percent reported that the attempt resulted in iniurv. poisoning, overdose that had to be treated by a doctor or nurse. Twenty-five seriously percent considered attempting suicide during past 12 months. Of these, 78 percent had made a plan about how they would attempt it and 41.2 percent actually made an attempt. Of those who had made an attempt, 58.3 percent had made more than one suicide attempt.

Figure 31 shows a breakdown of the percent of high school students who seriously considered attempting suicide, made a plan to attempt suicide and who actually attempted suicide in 1993 by gender. By each of these measures, females appear to be at greater risk, although there is no evaluation of the statistical significance of the observed differences between males and females. In other words, it is not known if these differences are more likely to be due to sampling error or due to real differences between males and females.

INJURY AND POISONING

In 1998 a total of 125 children 1-14 died aged from unintentional injury representing a rate of 12.7 percent per 100,000 children. This is a decrease from a high of 18.2 percent in 1995 and is the lowest rate recorded since There 1990. were adolescents who died from unintentional injury in 1998. This represented a decrease in the total rate from a high of 52.8 percent in 1995. Males died at a significantly higher number than females.

Figure 32. Rate of Hospitalizations for Non Fatal Injury and Poisoning per 100,000 Age 1-19



In 1998 there were 2,019

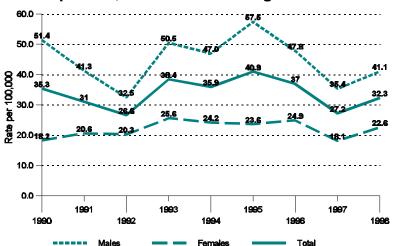
hospital admissions for nonfatal injury and poisoning among children age 1-14, representing a rate of 205.1 admissions per 100,000 children. In 1998 there were 1,528 hospital admissions among adolescents age 15-19 for nonfatal injury and poisoning, representing a rate of 466.0 admissions per 100,000 adolescents (see Figure 32). Appendix F profiles hospital utilization for nonfatal injury and poisoning for children age 1-14 and 15-19 from 1991 through 1998.

MOTOR VEHICLE

There were 64 motor vehicle-related deaths among children age 1-14 in 1998, representing a rate of 6.5 deaths per 100,000 children, the second consecutive annual decline in motor vehicle-related deaths in this age group.

There were 106 motor vehicle-related deaths among adolescents in 1998, representing a of 32.3 rate per 100.000. Between 1991 and 1998, the motor vehicle-related rate for death adolescents age 15-19 has ranged from a low of 26.6 in 1992 to a high of 40.9 in 1995 (see Appendix H).

Figure 33. Motor Vehicle-Related Mortality per 100,000 Adolescents Age 15-19



The motor vehicle-

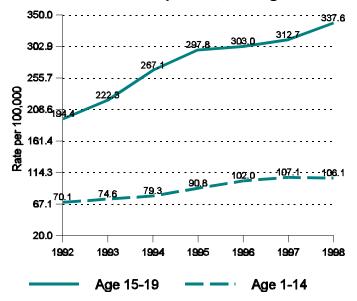
related mortality rate has remained consistently higher for males than females in the 15-19 age group. In 1998, the mortality rate due to motor vehicles was nearly twice as high for males (41.1 per 100,000 males) as it was for females (22.6 per 100,000 females) (see Figure 33).

Motor vehicle-related deaths for age 1-14 have remained consistently higher in the rural areas than in urban areas. In 1998, the rural motor vehicle-related death rate was 6.7 per 100,000, while the urban motor vehicle-related death rate was 5.7 for this age group. Adolescent death rates (age 15-19) due to motor vehicle-related accidents are consistently higher in the rural areas than in urban areas. In 1998 the rural motor vehicle-related death rate was 44.8 per 100,000

compared to the urban motor vehicle-related death rate of 26.4.

1,044 There were admissions among children age 1-14 in 1998, with a diagnosis code indicating a accident, motor vehicle representing a rate of 106.1 hospital admissions 100.000 children. Over the three years for which statistics are presented. male admission rates for motor vehicle accidents have remained consistently higher than female rates. Among

Figure 34. Hospitalizations Related to Motor Vehicle Accidents per 100,000 Age 1-19



adolescents aged 15-19, there were 1,107 hospital admissions with a diagnosis code indicating a motor vehicle accident, representing a rate of 337.6 admissions per 100,000 adolescents in 1998. The male adolescent hospitalization rate has been consistently higher for motor vehicle accidents; however, in 1998 the male rate dropped and the female rate increased to produce mortality rates which are much closer than ever before throughout the 1990s (see Figure 34). In 1995, there were 7,253 injuries reported to ADOT for children age 0-14 out of a population of 955,225 children, representing a rate of 759.3 reported injuries per 100,000 children age 0-14. This was an increase from the 1994 rate of 732.6 per 100,000. Injury rates were slightly higher in this age group for males (762.1) than for females (755.3).

In 1995, there were 10,399 injuries reported for children age 15-19 out of a total of 278,392 adolescents, representing a rate of 3,735.4 injuries per 100,000 adolescents. This rate represented a four percent increase over the 1994 rate of 3,583.6 injuries per 100,000 adolescents. Females were injured at a five percent higher rate than males (3,828.8 per 100,000 females compared to 3,643.7 per 100,000 males).

According to a recent survey (Children 2000), 92 percent of children always use a safety seat or seatbelt when they ride in a car, and another four percent nearly always do. Approximately four percent either sometimes or seldom used safety seats or seatbelts and two percent never do.

MURDER/HOMICIDE

In the United States, an estimated 38,000 juveniles were murdered during the period of 1980 to 1997. Murders have declined to a 26year low but still remain one of the leading causes of death for Approximately 2,100 iuveniles. iuveniles. primarily males (70 percent), were murdered in 1997; 33 percent under the age of 6 and 50 percent between the ages of 15 and 17. The majority (56 percent) of juvenile murder victims were killed by firearms (Juvenile Offenders and Victims: 1999 National Report).

Figure 35. Murder/Homicide per 100,000 Adolescents Age 15-19

60.0

60.0

60.0

60.0

47.0

41.7

41.7

30.0

23.9

24.4

24.3

10.0

69

4.5

0.0

1991

1992

1993

1994

1995

1996

1997

1998

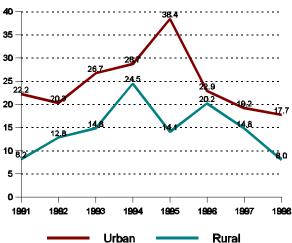
Total

Males

Females

In Arizona there were 25 deaths due to homicides in the 1-14 age group in 1998, representing a rate of 2.5 deaths per 100,000 children. Appendix H shows the murder/homicide mortality rate for children in Arizona generally, for males and females, and for children in urban and rural locations from 1991 through 1998.

Figure 36. Urban/Rural Murder/Homicide Mortality per 100,000 Adolescents Age 15-19



For adolescents, there were homicides in 1998, representing a rate of 16.8 per 100,000 adolescents. Homicide rates for males have been consistently higher than the rates for females, with the difference becoming more pronounced each year from 1991 through 1995, accounted for by a steady and dramatic increase in adolescent males being victims of homicides. However, in more recent years, this trend appears to be reversing (see Figure 35). Urban adolescents have been at higher risk 1998 of becoming homicide victims than rural adolescents during the 1990s (see Figure 36).

PREVENTABLE DEATHS OF CHILDREN UNDER AGE 18 10

Each year, the Arizona Child Fatality Review Team reviews deaths of children from birth through age 17 to determine whether an action by the community or an individual could have changed the circumstances that lead to death. These deaths are considered by them to be preventable. In 1998, of the 940 deaths reviewed by the Child Fatality Review Team, 305 (32.5%)

Figure 37. Causes of Preventable Child Deaths in 1998

Unspecified 4

Motor Vehicle 101

Violence 138

SIDS 137

Unintetional Injury 150

D 20 40 60 80 100 120

Percent

Data Source: The 1998 rate was calculated using the number of preventable deaths provided in <u>Arizona Child Fatality Review Team: Sixth Annual Report, November 1999</u>, Arizona Department of Health Services/Community and Family Health Services.

¹⁰

were classified as preventable.¹¹ These 305 deaths represent a preventable death rate of 24.3 deaths per 100,000 children age 0-17. The number as well the rate of preventable deaths for children age 0-17 has increased from 22.5 during 1996 to 24.3 during 1998.

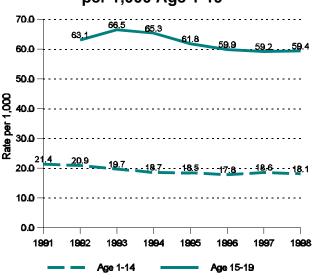
In 1998 the largest number of preventable deaths were the result of motor vehicle crashes. Other causes of preventable deaths were unintentional injuries, medical conditions and prematurity, violence, and Sudden Infant Death Syndrome (SIDS). Figure 37 shows the number and percent of causes of preventable deaths in 1998.

HOSPITALIZATIONS FOR ALL CAUSES

In 1998 there were 17,855 hospital admissions among children age 1-14, representing a rate of 18.1 admissions per 1,000 children. Ninety-two children died before being discharged from the hospital. Male children were more likely to be admitted to the hospital than females during each year of the review period. Males had a higher rate of hospital day utilization than females in each year of the review period. Appendix F profiles hospital utilization statistics for children age 1-14 for 1991 through 1998.

In 1998 there were hospital admissions among adolescents 15-19, age representing a rate of 59.4 1,000 admissions per adolescents. Sixty-two adolescents died before being discharged from the hospital. Adolescent females had a far higher rate of hospital admissions than males in each year of the review period. In 1998 the female admission rate was approximately five times higher than the male admission rate. The rate for females length of stay was nearly three times higher than the rate for males in 1998, and was

19,469 Figure 38. Hospitalizations for All Causes among per 1,000 Age 1-19



consistently higher than the male rate for all years reviewed (see Figure 38).

Maternal Child Health Needs Assessment 2000

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 $^{^{11}}$ In 1998 approximately 96% of deaths were reviewed by the Arizona Child Fatality Review Team.

HOSPITALIZATIONS FOR AMBULATORY CARE SENSITIVE CONDITIONS

Ambulatory care sensitive conditions¹² are those conditions which, if treated early in a primary care setting, would not likely require hospitalizations. Conditions included in this measure are diagnosis codes indicating any of the following: immunization preventable conditions, convulsions, severe ENT infections (suppurative and unspecified otitis media, pharyngitis, tonsilitis, URI), tuberculosis, COPD, bacterial pneumonia, asthma, diabetes, hypoglycemia, gastroenteritis, kidney/urinary infection, dehydration, iron deficiency anemia, nutritional deficiencies, pelvic inflammatory disease, and dental conditions. Analysis is limited only to those conditions in which the child is alive upon hospital discharge.

In 1998 there were 5,404 inpatient hospital admissions among children age 1-14 in which the patient was alive upon discharge from the hospital. Five conditions accounted for over 85 percent of these admissions: asthma, bacterial pneumonia, dehydration, kidney/urinary tract infections and gastroenteritis. Table 12 on the following page shows these and other conditions in descending order by frequency of hospital admissions, as well as the percent and cumulative percent that each condition represents of all ambulatory care sensitive The 5,404 inpatient hospital admissions for ambulatory care conditions. sensitive conditions among children age 1-14 in 1998 represent a rate of 549.0 hospital admissions per 100,000. The hospitalization rate in 1998 was the lowest rate from 1991 through 1998. Throughout this period males had higher rates of admission than females, although these differences have been reduced in recent years. In 1998, the rate of admissions for males was 10 percent higher than the rate for females. Appendix F profiles hospital utilization from 1991-1998 for ambulatory care sensitive conditions for children age 1-14 (see Figure 39).

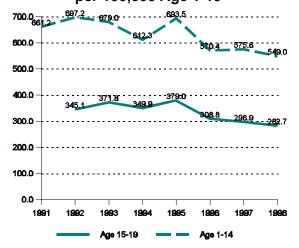
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Source: Arizona Department of Health Services Hospital Discharge Data Base. Only principle diagnosis codes were used to identify ambulatory care sensitive conditions (unless further codes are specified): failure to thrive (783.4 under 1 year of age) congenital syphilis (090 with a principal diagnosis code indicating birth [V30-V39] and age under one year, or 090 with date of admission equal to date of birth), immunization preventable conditions including pertussis (033), rheumatic fever without mention of heart involvement (390), rheumatic fever with heart involvement (391), tetanus (037), polio (045), hemophilus meningitis (320.0); grand mal status and other epileptic convulsions (345); convulsions "A" and "B" (780.3); severe ENT infections including suppurative and unspecified otitis media (382, excluding cases with myringotomy with insertion of tube, procedure 20.01), pharyngitis (462), tonsilitis (463), URI (465), chronic pharyngitis (472.1); pulmonary and other respiratory tuberculosis (011, 012); COPD, including chronic bronchitis (491), emphysema (492), bronchiectasis (494), chronic airway obstruction not elsewhere classified (496) and acute bronchitis (466.0, only if a secondary diagnosis was present for 491, 492, 494, escape (496); bacterial pneumonia (481, 482.2, 482.3, 482.9, 483, 485, 486 for ages over 60 days, in the absence of a secondary diagnosis of sickle cell [282.6]); asthma (493), diabetes A (250.1, 250.2, 250.3); diabetes B (250.8, 250.9); diabetes C (250.0); unspecified hypoglycemia (251.2), gastroenteritis (558.9), kidney/urinary infection (590, 599.0, 599.9); dehydration-volume depletion (276.5); iron deficiency anemia for age five and under (280.1, 280.8 and 280.9); nutritional deficiencies (260, 261, 262, 268.0, 268.1); pelvic inflammatory disease (614 for females only, in the absence of procedure code for hysterectomy [68.3-68.8]), and dental conditions (521, 522, 523, 525 and 528).

Table 12. Ambulatory Care Sensitive Conditions Age 1-14 Hospitalizations for Specific Conditions					
Condition	Frequency	Percent	Cumulative Percent		
Asthma	1,778	32.9%	32.9%		
Bacterial pneumonia	1,534	28.4%	61.3%		
Dehydration	691	12.8%	74.1%		
Kidney/urinary	315	5.8%	79.9%		
Gastroenteritis	313	5.8%	85.7%		
Diabetes	256	4.7%	90.4%		
Severe ENT	230	4.3%	94.7%		
Grand mal seizures	156	2.9%	97.6%		
Dental	72	1.3%	98.9%		
Immunization-preventable diseases	19	0.4%	99.3%		
Iron deficiency anemia	11	0.2%	99.5%		
COPD	10	0.2%	99.6%		
Pelvic Inflammatory Disease	7	0.1%	99.8%		
Hypoglycemia	6	0.1%	99.9%		
Pulmonary tuberculosis	4	0.1%	100.0%		
Nutrition	2	0.0%	100.0%		

The 927 admissions for ambulatory sensitive conditions among adolescents 15-19 in 1998 age represent a rate of 282.7 hospital 100,000. admissions per The adolescent admission rate appears to be declining since its high point of 379.0 in 1995. Adolescent females have had consistently higher admission rates than males throughout the time period reviewed. In fact, the rate of admissions for adolescent females in 1998 was nearly twice as high as the rate for males (see Figure 39). Appendix F is a profile of hospital utilization from 1991-1998 ambulatory care sensitive conditions for

Figure 39. Hospitalizations for Ambulatory Care Sensitive Conditions per 100,000 Age 1-19



adolescents age 15-19. There were 927 admissions of adolescents age 15-19 in 1998 in which the patient was alive upon discharge from the hospital. Five conditions account for nearly 80 percent of these admissions: diabetes, asthma, bacterial pneumonia, kidney/urinary tract infections and pelvic inflammatory disease (see Table 13).

Table 13. Ambulatory Care Sensitive Conditions Age 15-19 Hospitalizations for Specific Conditions				
Condition	Frequency	Percent	Cumulative Percent	
Diabetes	195	21.0%	21.0%	
Asthma	179	19.3%	40.3%	
Bacterial pneumonia	149	16.1%	56.4%	
Kidney/urinary	147	15.9%	72.3%	
Pelvic inflammatory disease	66	7.1%	79.4%	
Dehydration	56	6.0%	85.4%	
Gastroenteritis	48	5.2%	90.6%	
Severe ENT	44	4.7%	95.4%	
Grand mal seizure	21	2.3%	97.6%	
Dental	7	0.8%	98.4%	
Iron deficiency anemia	4	0.4%	98.8%	
COPD	4	0.4%	99.2%	
Pulmonary tuberculosis	4	0.4%	99.7%	
Nutritional deficiencies	3	0.3%	100.0%	

MENTAL HEALTH

Based on the Report of the Surgeon General on Mental Health, the current prevalence for the US population affected by a mental disorder is estimated at 20 percent. Nearly 28 percent to 30 percent of adults have either a mental or addictive disorder. Although not as well documented among adults, an approximate 20 percent of children have a mental disorder with at least a mild functional impairment. The percentage of children ages nine to 17 with a serious emotional disturbance is estimated between five and nine percent. A total of 15 percent of the US adult population use mental health services in any given year. Similarly, approximately 21 percent of the child and adolescent population use mental health services annually.

According to a recent survey (Children 2000), 11 percent of children have had more than one complaint from their school about their behavior during the past

twelve months, and 13 percent have had a problem about which the caregiver would have liked to talk to a mental health professional. Half of them were able to talk to a health professional. The most common reasons given for those that did not see a professional involved lack of insurance and an inability to afford the cost.

SUBSTANCE ABUSE

The estimated number of current illicit drug users has declined since 1979 when it was at its highest level of 25 million individuals. According to the 1998 National Household Survey on Drug Abuse, nearly 13.6 million individuals used illicit drugs 30 days prior to the interview. In particular, 9.9 percent of youth ages 12-17 reported current use of illicit drugs. The survey found that 8.3 percent of these youth were current users of marijuana. The percent of youths reporting current use of inhalants decreased significantly from two percent in 1997 to 1.1 percent in 1998. In addition, an estimated 4.1 million people met diagnostic criteria for dependence on illicit drugs in 1997 and 1998, including 1.1 million youths age 12-17.

The 1997 Youth Risk Behavior Surveillance System which is a school based, anonymous survey found that 9.7 percent of students had tried marijuana before 13 years of age. Male students (12.2 percent) were significantly more likely than female students (6.7 percent) to have tried marijuana. A little more than a quarter of students in grades 9-12 had used marijuana one or more times 30 days preceding the survey. The initiation of cocaine use including powder, crack, or freebase was reported by 1.1 percent of students. An estimated 3.3 percent of students indicated current cocaine use.

Based on augmented sample of the 1998 National Household Survey on Drug Abuse for Arizona, the prevalence of illicit drug use among individuals 12 years and older was 7.4 percent in Arizona. Fourteen percent of youth ages 12-17 reported current drug use. The rate in Arizona was statistically greater than California (9.9 percent) and the rest of the US (9.9 percent). In addition, between 1997 and 1998, there was a significant decline in illicit drug use among youths age 12-17 and young adults 18-25 years of age. Arizonans did not perceive great risk in using marijuana compared to rest of the US.

A report on the National Drug and Alcoholism Treatment Unit Survey highlights that there are an estimated 943,000 clients in speciality substance abuse treatment as of October 1994. There were an estimated 431 clients for every 100,000 people in the general population above the age of 12. An estimated 41 percent abused both alcohol and drugs while 34 percent abused only alcohol and 25 percent abused only drugs.

Medical examiners participating in the Drug Abuse Warning Network reported 9,743 drug-related deaths in 42 metropolitan areas. Cocaine was the most frequently mentioned drug in 1997 followed by heroin/morphine and alcohol-in-combination. Drug abuse decedents were more likely to be male (76 percent) than female (24 percent), which follows a trend since 1994. Deaths among individuals aged 35 and older accounted for 68 percent of the drug abuse episodes, among those ages 26 to 34 accounted for 21 percent, and those age 18 to 25 accounted for 9 percent in 1997. White decedents constituted the majority (61 percent) of drug abuse episodes compared to African Americans (27 percent), and Hispanics (10 percent).

In Arizona, there was one substance/drug-related death among children under age 15 in 1998. Appendix H shows the mortality rates in this age group from 1991 through 1998. There were seven drug-related deaths of adolescents in 1998, representing a rate of 2.1 per 100,000.

In 1998 there were 241 admissions among children age 1-14 with a diagnosis code indicating substance or drug abuse, representing a rate of 24.5 hospital admissions per 100,000 children. Appendix F profiles hospital utilization for substance and drug abuse related diagnoses for children age 1-19 from 1991 through 1998. In 1998 there were 1,030 hospital admissions with a diagnosis code indicating substance or drug abuse, representing a rate of 314.1 admissions per 100,000 adolescents. There were seven deaths associated with these hospitalizations. The rate of substance-related hospital admissions for females was 36 percent higher than for males in 1998. Throughout the review period, females have had higher rates of hospital admissions for substance and drug abuse than males.

The source of data for behavioral indicators related to substance abuse is the 1997 School Substance Survey, which is the seventh in a series of surveys performed by the Arizona Criminal Justice Commission, and represents students' self reports of drug use. The 1997 sample included 13,157 public school students throughout the state in grades three through twelve, with all 15 counties proportionately represented. (See <u>Substance Abuse and Public School Students</u> for methodological details related to sampling and survey administration, as well as more detailed findings.)

ELEMENTARY SCHOOL STUDENTS

Elementary students were asked whether they had used certain drugs ever in their lives, in the last 30 days, or within the last week. Alcohol was the most commonly tried substance, with 19.9 percent of elementary school children saying in 1997 that they had tried it at least once in their lives, although a lower proportion of children report having used alcohol than in previous years. Six percent of elementary school children reported having used alcohol during the

past month, and 4.2 percent reported using it in the past week. The next most frequently tried substance was cigarettes, with 18.3 percent of the children reporting in 1997 that they had tried cigarettes at least once in their lives, 5.7 percent reporting that they had smoked cigarettes in the past month, and 4.5 percent reporting that they had smoked cigarettes in the past week. Appendix I shows the percent of children who said they used each of several substances ever, in the past month, and in the past week, in each survey from 1991 to 1997.

JUNIOR HIGH STUDENTS

In the 1997 survey, alcohol was the most frequently reported substance that junior high school students used with over half (54.9 percent) reporting that they had ever used it, 23.7 percent reporting that they had used it in the past month, and 12.5 percent reporting that they had used it within the past week. Cigarettes had been tried by 45.9 percent of junior high school students, with 18.7 percent having smoked cigarettes within the past month and 12.6 percent within the past week. Marijuana and inhalants were the next most likely substances for junior high school students to report using (see Appendix I).

HIGH SCHOOL STUDENTS

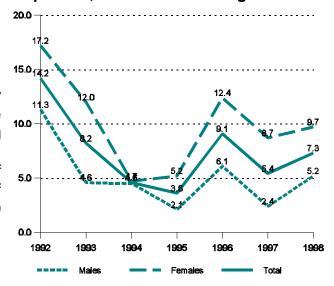
In 1997 approximately three in four high school students reported that they had used alcohol at some time in their lives, with 43.4 percent having used it in the last month and 23.7 percent using it within the past week. Cigarettes had been used by 62.7 percent of high school students at some time in their lives, with 31.3 percent using them in the past month, and 25.3 percent in the past week. Marijuana had been used by 47.4 percent of high school students, with 25.1 percent using it within the past month, and 17.5 percent using it within the past week (see Appendix I).

SEXUALLY TRANSMITTED DISEASE AND HIV/AIDS

EARLY SYPHILIS

There were no cases of early syphilis, described as the stage when it is communicable, among children age 0-14 in 1998. Appendix J shows the numbers of reported cases and rates of syphilis among children age 0-19 from 1991 to 1998.

Figure 40. Early Syphilis Reported Cases per 100,000 Adolescents Age 15-19

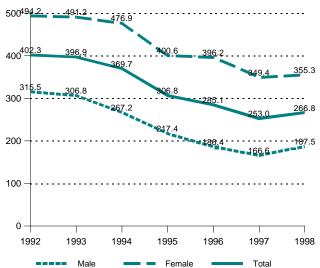


In 1998 there were 24 cases of syphilis among adolescents age15-19 representing a rate of 7.3 cases per 100,000 adolescents. Adolescent females have had consistently higher syphilis rates than males (see Figure 40).

GONORRHEA

In 1998 there were 42 cases of gonorrhea among children age 0-14, representing a rate of 4.0 per 100,000 children. Appendix J shows the numbers

Figure 41. Gonorrhea Reported Cases per 100,000 Adolescents Age 15-19



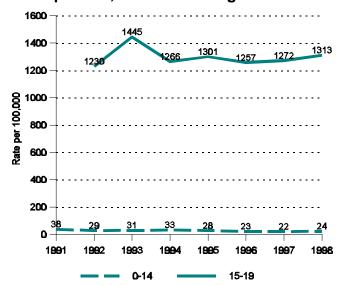
of reported cases and rates of gonorrhea among children age 0-19 from 1991 through 1998. 1998 there were 875 cases of gonorrhea among adolescents age 15-19, representing a rate of 266.8 100,000 adolescents. per Adolescent females had a rate of gonorrhea cases which was nearly two times higher than adolescent males. There has been a general decrease in the reported rates of gonorrhea among both male and female adolescents over the years from 1992 through 1998 (see Figure 41).

CHLAMYDIA

In 1998 there were 252 cases of chlamydia among children age 0-14, representing a rate of 23.8 per 100,000 children. Female rates were more than seven times higher than male rates in this age group.

In 1998 there were 4,306 cases chlamydia among adolescents age 15-19. representing a rate of 1,313.1 100,000 adolescents. Adolescent females had chlamydia rate which was six times higher than adolescent males (see **Figure** 42).

Figure 42. Chlamydia Reported Cases per 100,000 Children Age 0-19



Appendix J shows the numbers of reported cases and rates of chlamydia among children and adolescents from 1991 through 1998.

HIV and AIDS

Beginning in 1981, HIV and AIDS cases have been accumulated by age at diagnosis within each of three categories: HIV Ab+ Asymptomatic, Ab+ Symptomatic, and AIDS. When a person's condition changes from one category to another, the case is removed from the previous categorization and counted in the new category according to the person's age at the time of the new diagnosis. By 1998, there were 173 reported HIV and AIDS cases for the 0-19 age group. Fifty-four cases were in the under five age group, 16 were age 5-12 and 103 were age 13-19.

GENITAL HERPES

Genital herpes information was available by age groups for the first time in 1997. In 1998 there were 148 cases of genital herpes reported in the 0-19 age group. Among children age 0-14, there were 14 cases, representing a rate of 1.3 per 100,000. Female rates were six times higher than male rates in this age group. Among adolescents age 15-19, there were 134 cases, representing a rate of 40.9 per 100,000 adolescents. Adolescent females had a rate of genital herpes which was nearly seven times higher than adolescent males. Appendix J shows the number of reported cases and rates of genital herpes among children age 0-14 and adolescents age 15-19 in 1998.

ADDRESSING THE NEED -

Each month a team of office chiefs within the Bureau of Community and Family Health and key staff meet to discuss emerging issues and priority needs. Depending upon the topic under review, invitations are extended to experts in the areas outside of the Bureau. Information gathered through the needs assessment process has been continually presented to interested parties through the community such as the Arizona Perinatal Trust, community nurses, county prenatal block grant coordinators, AHCCCS Administration, county health directors and directors of nursing. Through this process 10 priority needs for the state of Arizona were identified as follows:

- Fewer babies with low birth weight.
- Health insurance for all children.
- Universal newborn screening.
- Decreased childhood mortality due to preventable injury.
- Integration of care for children with special healthcare needs
- Comprehensive health insurance for children with special health care needs.
- Increased safety for our children.
- Adequate dental services for all children.
- Universal access to mental health services for children.
- Access to needed health care services and preventive health care for women of childbearing age.

NEEDS IDENTIFIED

The major need of the Maternal Child Health population is access to care. The difficulties in accessing care are three pronged: financial, geographic and bureaucratic. The financial barriers include lack of health insurance or inadequate coverage as well as not having the financial resources to pay for health care out of pocket. Twenty five percent of people in Arizona are without health coverage. Arizona ranks next to last among the states and the District of Columbia in the number of uninsured children. Twelve percent of BRFS respondents listed not having dental insurance, inadequate insurance, or not being able to afford the cost as the reason children had not had dental care in the last year. Similar results were identified in the Children 2000 survey relating to mental health care utilization. Women and children without health insurance are less likely to have a usual source of health care and often delay seeking care.

The geographic element refers to both the difficulty of receiving care due to the lack of providers in remote or rural areas as well as the unavailability of providers in some poor urban areas. The bureaucratic impediments to care refer

to the difficulties the families of children with special health care needs often face in obtaining referrals to needed specialist. Many insurance plans have systems in place to reduce the number of out of system referrals making it difficult for these families to ensure their children are receiving appropriate care.

Every population addressed in this document, women of childbearing age, infants and children, evidence health risks that can be avoided through preventive care. The American Cancer Society recommends mammography, breast examination and Pap screening to help detect early cancers in women. Only 68 percent of Arizona women aged 40-49 have ever had a mammogram (compared to eighty percent nationally),77 percent have ever had a breast exam (compared to the national median of 88 percent), and 84 percent of women aged 18-44 have ever had a Pap test compared to the national level of 93 percent for women aged 18-39 and 98 percent of women aged 40-49. Eighty two percent of women who responded to the BRFS had not been counseled about diet or eating habits, and only 8.7 percent had been counseled about physical activity. Over two thirds of the women who had not gone to a dentist in the past year offered cost as the barrier. The Arizona Family Planning Council (AFPL) estimated 44 percent of eligible women were not served by family planning services. Financial, cultural and geographic difficulties were identified as the reason for not accessing this care.

The percentage of babies born to women receiving early prenatal care has generally increased during the 1990s; however, the percent decreased from 1997 to 1998. There has also been an increase in the percent of women giving birth without prenatal care in recent years. Women who had no insurance for delivery came into the perinatal system later, had fewer prenatal visits and poorer birth outcomes. Studies of Arizona hospital data suggests an increase in premature and low birth weight babies. Birth outcomes also vary by racial and ethnic groups status with African-American infants more than twice as likely to die than White infants during their first year of life. Native Americans and Hispanics also had higher infant mortality rates than the statewide average.

Ninety one percent of Arizona children have a place where they usually go for health care; but among those who do not, 36 percent have reported that they either have no health insurance or cannot afford the care. These factors lead to a significant minority of children who have unmet need for medical services. According to the Children 2000 survey, during the past year four percent of children went without a needed prescription medicine; three percent went without needed mental health counseling; twelve percent had gone without needed dental care; and two percent went without needed physical, occupational or speech therapy. Only 23 percent of individuals estimated to have behavioral health needs are currently being treated by a Regional Behavioral Health Authority (RBHA).

According to the Child Fatality Review Team, in 1998 of the 940 deaths of children under age 18, 32.5 percent were classified as preventable. The largest number were motor vehicle accidents. Unintentional injuries accounted for 41 percent of all deaths among children age 1-14, and 51 percent of those were due to motor vehicle accidents. Among adolescents, unintentional injuries accounted for 44 percent of the deaths with 80 percent of those related to motor vehicles. The suicide rate among adolescents in Arizona is unacceptably high with 15.2 deaths per 100,000 adolescents attributed to suicide during 1998.

The importance of preventive care is further evidenced by the number of hospital admissions for ambulatory care sensitive conditions. These are illnesses that when treated early in a primary care setting are less likely to require hospitalization. In 1998 over 5,000 children under age 15, and 927 adolescents aged 15-19, were admitted to the hospital for ambulatory care sensitive conditions. Arizona children also have a high rate of untreated tooth decay. That, coupled with the fact that one in four children had never had their teeth cleaned by a dentist or dental hygienist is an issue that remains to be addressed.

NEEDS ADDRESSED

While there are many issues that must be examined concerning the health status of women and children in Arizona, many programs and initiatives have already been implemented to begin to tackle the problems. The Well Woman Healthcheck was begun in 1995 to increase screening rates for breast and cervical cancers. Well Women operates in seven counties and ten Native American sites. By January 2000, 7,000 women had ben enrolled. Important strides have been made in increasing the availability and utilization to prenatal care and identification of high risk pregnancies. The Baby Arizona Project helps to streamline AHCCCS availability and awareness for prenatal care. Health Start was also developed as another avenue of outreach. The Periods of Risk model has been instituted as a method of determining where in the perinatal cycle the greatest periods of risk are for target populations and strategic planning to address the deficiencies that lead to that risk.

Arizona's perinatal regional transport system is considered a model nationally. It is a consortium of ADHS, AHCCCS, the Arizona Perinatal Trust (APT), private physicians, hospitals and transport providers. The system facilitates the transport of critically ill newborns statewide to facilities with the necessary level of expertise. This service has been expanded to include families from the identification of a high-risk pregnancy, through discharge, and until the child is three years old. The ADHS and the APT continue to plan strategically to ensure the optimum quality of care.

There are four model programs aimed at increasing access to primary care in

rural or under-served areas: The Arizona Loan Repayment Program, the J-1 Visa Waver Program, the Arizona Medical Student Loan Program and the National Health Service Corps. All of these programs aim to supply the underserved areas with qualified health care practitioners.

State agencies providing services to children is developing a project called *No Wrong Door.* This comprehensive program, mandated by the Governor, will streamline services for families with children with special needs. At the initial point of entry into the health care system the family will be assisted in applying for all appropriate services.

Arizona has initiated and continues to champion many prevention and screening services for its children. There are already in place school wide hearing and vision screening programs. The Office of Oral Health supports community water fluoridation, school based fluoride mouth rinse programs, a dental sealant program to assist uninsured low income children, a Mobil Dental Unit Loan Program, as well as public and private access and informational coalitions.

In 1992 ADHS initiated the Arizona Partnership for Infant Immunization (TAPII). This coalition's goal is to deliver appropriate immunizations to 90 percent of Arizona's children before their second birthday.

NEEDS OUTSTANDING

While many strides have been made to improve the health of the women of childbearing age and infants and children in Arizona there is much left to be done. Increased outreach should capture an estimated 204,000 women who are eligible but not enrolled in Women Healthcheck. There is a lack of low cost treatment for abnormal pap screens for low income, uninsured women. Health care providers need to aggressively discuss diet, nutrition and exercise with their clients. More women need low cost family planning services. Women with high risk pregnancies must be identified and incorporated into the perinatal system earlier to reduce the incidence of low birth weight babies and the resultant problems. Newborn screening must be enhanced. While all infants are screened initially, follow up screens and confirmation are made more difficult because of early discharge.

More efforts must be made to enroll all eligible children in the appropriate system of care, be that AHCCCS, KidsCare. Mental health services for children with special health care needs still need to be addressed. More work needs to be done with managed care programs to make them more comprehensive and accessible to children with special health care needs. It is necessary to more aggressively recruit child life specialists, bi-lingual speech pathologists and bi-lingual psychologists, physical and occupational therapists for children with special health care needs. This need is even more urgent in the rural areas.

Only 47 percent of Arizona is served by fluorinated water. Efforts must continue to continue to fluorinate drinking water. Dental insurance must become more accessible. More dentists must be recruited for the under-served areas as well as for the rest of the state. Arizona currently has only one dentist for every 2,250 people. Any attempt to increase access to health care must include renewed effort to recruit more health care providers for the rural areas, including the Indian Health Service Areas. In 1998 thirteen under-served areas outside of Maricopa and Pima counties had no provider and 20 other under-served areas had one provider for every 3,000 people. Continued efforts must be made to encourage hospitals to become certified under the Arizona Perinatal Trust levels of prenatal care. More outreach must be done to serve the approximately 77 percent of individuals in Arizona who are estimated by the Behavioral Health Service to be in need of but not accessing behavioral health care.

APPENDIX A: MEASURING PROGRESS_

Arizona Department of Health Services receives Title V funds from the Federal Government for its Maternal Child Health population. As a condition of this funding, states are required to monitor progress towards several performance and outcome measures. Each state must report on a set of eighteen mandatory or "core" performance measures and six mandatory outcomes measures. In addition states report on from seven to nine state-defined performance measures and at least one state-defined outcome measure.

For each performance and outcome measure, states are required to set target projections against which progress is measured. In order to set targets, historical trend data and national comparative data were evaluated. Incremental increases or decreases towards goals were projected for most measures. Targets were set more modestly for some when forces could be seen which were likely to impede progress. For still other measures, developments were seen as likely to promote progress and targets were set more aggressively.

There are a number of issues or circumstances which may affect the State's ability to achieve targets. Among them are Arizona's continued significant population growth, the affects of welfare reform and the influx of undocumented residents. Although the Title V population continues to grow, MCH funding level from both State and Federal sources have not increased since 1994. Each of these factors poses a significant challenge in delivering preventive care and other health management initiatives to a relatively transient, poor, and uninsured population. Morbidity and mortality related to these at-risk populations will be reflected in Arizona's performance measures.

A listing of each of the performance and outcome indicators is presented on the following two pages. Following this listing is a one-page illustration for each measure showing Arizona's progress in relation to targets as well as available data on historical trends in Arizona and the United States and other relevant subgroup comparisons.

The Bureau of Maternal and Child Health within the Arizona Department of Health Services has several programs which address various aspects of the performance and outcome measures reported in this section.

MANDATORY (CORE) PERFORMANCE MEASURES

- 21. The percent of State SSI beneficiaries less than 16 years old receiving rehabilitative services from the State Children with Special Health Care Needs (CSHCN) Program.
- 22. The degree to which the State Children with Special Health Care Needs (CSHCN) Program provides or pays for specialty and subspecialty services, including care coordination, not otherwise accessible or affordable to its clients.
- 23. The percent of Children with Special Health Care Needs (CSHCN) in the State who have a "medical/health home."
- 24. Percent of newborns in the State with at least one screening for each of PKU, hypothyroidism, galactosemia, hemoglobinopathies (e.g. the sickcle cell diseases) (combined).
- 25. Percent of children through age 2 who have completed immunizations for Measles, Mumps, Rubella, Polio, Diphtheria, Tetanus, Pertussis, Haemophilus Influenza, Hepatitis B.
- 26. The birth rate (per 1,000) for teenagers aged 15 through 17 years.
- 27. Percent of third grade children who have received protective sealants on at least one permanent molar tooth.
- 28. The rate of deaths to children aged 1-14 caused by motor vehicle crashes per 100,000 children.
- 29. Percentage of mothers who breastfeed their infants at hospital discharge.
- 30. Percentage of newborns who have been screened for hearing impairment before hospital discharge.
- 31. Percent of Children with Special Health Care Needs (CSHCN) in the State CSHCN program with a source of insurance for primary and specialty care.
- 32. Percent of children without health insurance.
- 33. Percent of potentially Medicaid eligible children who have received a service paid by the Medicaid Program.
- 34. The degree to which the State assures family participation in program and policy activities in the State CSHCN program.
- 35. Percent of very low birth weight live births.
- 36. The rate (per 100,000) of suicide deaths among youths 15-19.
- 37. Percent of very low birth weight infants delivered at facilities for high-risk deliveries and neonates.
- 38. Percent of infants born to pregnant women receiving prenatal care beginning in the first trimester.

STATE PERFORMANCE MEASURES

- A. Proportion of low-income women who receive reproductive health/family planning services.
- B. Hospitalizations for nonfatal injuries and poisonings per 100,000 adolescents age 15 through 19.
- C. The percent of licensed child care centers which meet national quality standards for health and safety.
- D. Asthma hospitalizations per 100,000 children age 1 through 14.
- E. Preventable child deaths per 100,000 children under age 18.
- F. The rate of children 1 through 14 hospitalized for ambulatory care sensitive conditions per 100,000.
- G. The State Title V program has adopted and recommended a set of quality standards for the health care of the MCH population.
- H. (Discontinued.) Percent of women of childbearing age (18-44) who take a vitamin with the recommended 0.4 mg. of folic acid daily.
- I. Number of babies born with spina bifida per 10,000 live births.

OUTCOME MEASURES

- 1. Infant mortality rate per 1,000 live births.
- 2. The ratio of the black infant mortality rate to the white infant mortality rate.
- 3. The neonatal mortality rate per 1,000 live births.
- 4. The postneonatal mortality rate per 1,000 live births.
- 5. Preventable child deaths per 100,000 children under age 18.
- 6. The rate per 100,000 of suicide deaths among youths aged 15-19.
- 7. The State Title V program has adopted and recommended a set of quality standards for the health care of the MCH population. (State defined.)

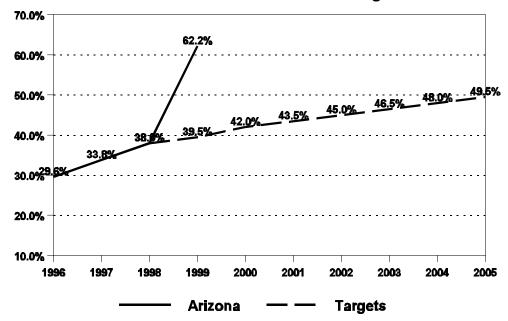
CORE PERFORMANCE MEASURE #01:

THE PERCENT OF STATE SSI BENEFICIARIES LESS THAN 16 YEARS OLD RECEIVING REHABILITATIVE SERVICES FROM CSHCN PROGRAM

For the period, January 1, 1999 to December 31, 1999, 6,583 CRS participants 15 years of age or younger were enrolled in SSI. According to Social Security Administration data, in December 1999, 10,590 children 15 years of age or younger received SSI payments. Thus, 62 percent of beneficiaries received rehabilitative services from the CSHCN Program.

There appears to be a considerable increase in 1999 in the percent of beneficiaries receiving rehabilitative services, but previously reported rates are not truly comparable as different methodologies were used to determine the number of children participating in CRS. In previous years, the number of children less than 16 years of age was estimated from Children's Rehabilitative Services Program enrollment data. In 1999 the data system permits an actual count of children 15 years of age or younger who are enrolled. The OCSHCN has continued to improve its capacity to provide accurate data on services provided.





CORE PERFORMANCE MEASURE #02:

THE DEGREE TO WHICH THE STATE CSHCN PROGRAM PROVIDES OR PAYS FOR SPECIALTY AND SUBSPECIALTY SERVICES, INCLUDING CARE COORDINATION, NOT OTHERWISE ACCESSIBLE OR AFFORDABLE TO ITS CLIENTS.

The State of Arizona provides or pays for at least a portion of need in all nine of the specialty and subspecialty services related to performance measure #02 (listed below). Several funding sources such as Title XIX, State, Part C of ADA and Title V are used to pay for the services. OCSHCN bases this performance measure on what is delivered directly by the state because there is currently no way to measure the extent to which all services are provided by all public sources.

- ☑ 2. OT, PT services
- ☑ 3. Speech, hearing and language services
- 8. 4. Respiratory services
- ⊠ 6. Home health care
- ☑ 7. Nutrition services
- ⊠ 8. Care coordination

Arizona Score for 1999: 9 out of 9

CORE PERFORMANCE MEASURE #03:

THE PERCENT OF CHILDREN WITH SPECIAL HEALTH CARE NEEDS IN THE STATE WHO HAVE A "MEDICAL/HEALTH HOME."

Although this is a core performance measure, no standardized methodology has been established for how to measure or even precisely define the concept of medical home. The American Academy of Pediatrics (AAP) states that medical care should be

- Accessible, continuous, and compassionate,
- Delivered or directed by well-trained physicians who are able to manage or facilitate essentially all aspects of pediatric care, and
- The physician should be known to the child and family and should be able to develop a relationship of mutual responsibility and trust with them.

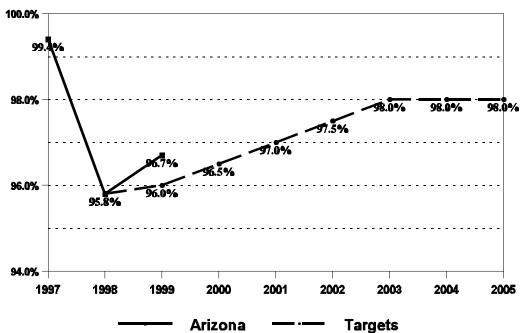
In Arizona a questionnaire was developed corresponding to various aspects of the AAP definition of what medical care should be and during 2000 a telephone survey was conducted focused on children in Arizona. Insufficient cases of CSHCN were collected during that effort upon which to base an estimate of CSHCN with a medical home; however, a survey is being conducted at the time of this writing to gather information specifically on this population related to medical home.

CORE PERFORMANCE MEASURE #04:

PERCENT OF NEWBORNS IN THE STATE WITH AT LEAST ONE SCREENING FOR EACH OF PKU, HYPOTHYROIDISM, GALACTOSEMIA, HEMOGLOBINOPATHIES ([E.G. THE SICKLE CELL DISEASE) (COMBINED)].

In 1999, 96.7 percent of newborns were screened for each of PKU, hypothyroidism, galactosemia, and hemoglobinopathies, a small increase over the 1998 rate of 95.8 percent. Although the past two reported rates appear to be reductions from the 1997 rate, they reflect a new methodology that was implemented to improve reliability of identifying initial specimens. Targets were reset to reflect the improved estimate and the 1999 target of 96 percent was exceeded. In FY 2000, unsatisfactory specimens remained at less than 1 percent.





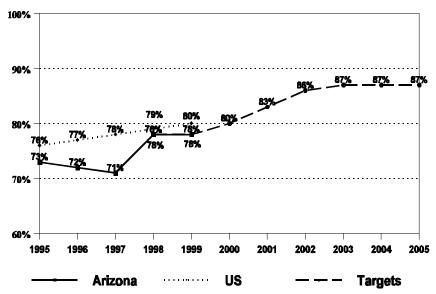
CORE PERFORMANCE MEASURE #05:

PERCENT OF CHILDREN THROUGH AGE 2 WHO HAVE COMPLETED IMMUNIZATIONS FOR MEASLES, MUMPS, RUBELLA, POLIO, DIPTHERIA, TETANUS, PERTUSSIS, HAEMOPHILUS INFLUENZA, HEPATITIS B.

The CDC National Immunization Survey (NIS) estimated that in 1997, 55 percent of Arizona's two-year old population completed the combined recommended series of immunizations including at least four doses of diptheria, polio and tetanus (4 DPT), three doses of polio (3 OPV/IPV), one dose of measles, mumps and rubella (1 MMR), three doses of haemophilus influenza type B (3 HiB) and three doses of Hepatitis B (3 Hep B) before their second birthday. Based on that information, Arizona set target rates for the complete series in the 1999 block grant application.

The 1998 NIS report did not include statistics on the combined series for all recommended immunizations including HiB and Hep B and in the 2000 application the measure was changed to reflect the percent of two year olds completing the recommended doses of 4 DPT, 3 OPV/IPV and 1 MMR and targets were reset accordingly. The target of 78 percent for 1999 was met, compared to 80 percent of children in the nation for the same time period.¹³

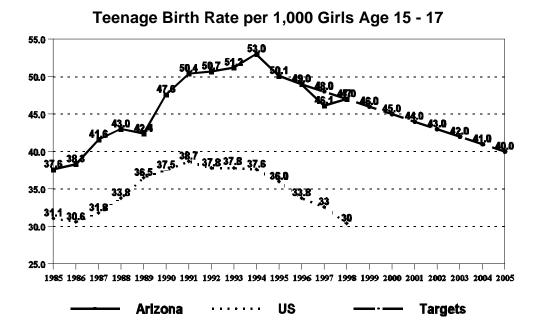
Percent of Children Completing Immunization Series through Age Two



 $^{^{13}}$ The estimated rate is for the third quarter of 1998 through the second quarter of 1999 and in Arizona has a sampling error of ± 4.2 ; the rate for the United States has a sampling error of ± 0.9 .

Core Performance Measure #06: The rate of birth (per 1,000) for teenagers aged 15 through 17 years.

The birth rate to teens ages 15-17 in Arizona climbed fairly steadily in the decade leading to 1994, and had remained well above national averages until it began to decline in 1995 and 1996.



CORE PERFORMANCE MEASURE #07:

PERCENT OF THIRD GRADE CHILDREN WHO HAVE RECEIVED PROTECTIVE SEALANTS ON AT LEAST ONE PERMANENT MOLAR TOOTH.

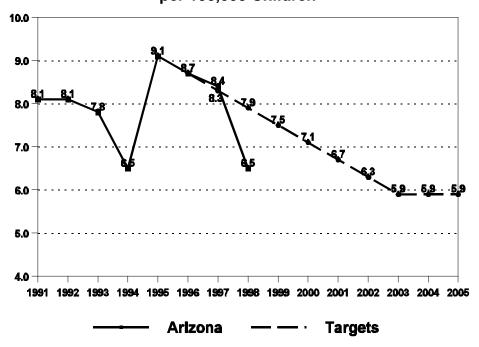
No data are yet available specifically on the percent of third grade children who received protective sealants on at least one permanent molar tooth. Although the Office of Oral Health collects relevant dental information, a representative sample of third graders had not been a part of previous sampling plans. The best estimate is based on a 1990 survey which found that 8% of children age 6 to 8 had dental sealants.

CORE PERFORMANCE MEASURE #08:

THE RATE OF DEATHS TO CHILDREN AGED 1-14 CAUSED BY MOTOR VEHICLE CRASHES PER 100,000 CHILDREN.

Motor vehicle deaths to children age 1-14 appeared to decline in Arizona during the early 1990's, reaching a low of 6.5 deaths per 100,000 children age 1-14 in 1994 before increasing to 9.1 in 1995. The rate appears to be declining again in recent years. In 1997, the rate was 8.4 deaths per 100,000 children, slightly higher than the target of 8.3. For 1998 the actual rate of 6.5 is below target of 7.9.

Deaths Caused by Motor Vehicle Crashes per 100,000 Children

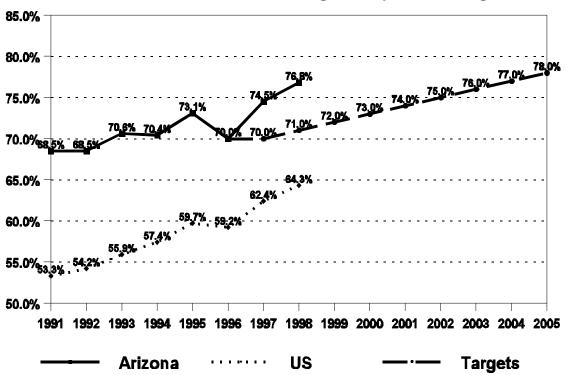


CORE PERFORMANCE MEASURE #09:

PERCENTAGE OF MOTHERS WHO BREAST-FEED THEIR INFANTS AT HOSPITAL DISCHARGE.

In 1991, 68.5 percent of mothers in Arizona breast-fed upon hospital discharge. By 1995, the percent had risen to 73 percent and by 1996, it had fallen back to 70 percent. In 1997, the Arizona rate for all infants rose to 74.5 percent and to 76.8 percent in 1998.¹⁴ Arizona's rates are consistently higher than the national averages.





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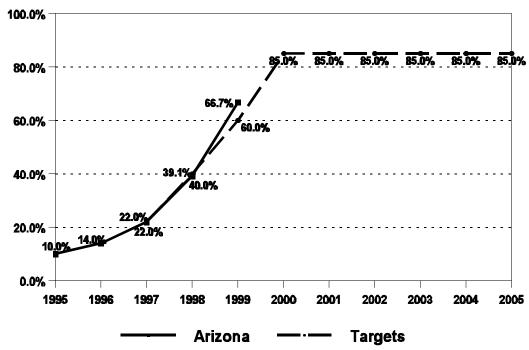
¹⁴Source: Ross Mothers' Survey.

CORE PERFORMANCE MEASURE #10:

PERCENTAGE OF NEWBORNS WHO HAVE BEEN SCREENED FOR HEARING IMPAIRMENT BEFORE HOSPITAL DISCHARGE.

In 1999, 66.7 percent of newborns were screened for hearing impairment before hospital discharge, representing a 71 percent increase over 1998. The 1998 rate had increased by 78 percent over the rate in 1997. These increases are the result of a grant by the St. Luke's Health Initiatives to the EAR Foundation that funded equipment and technical assistance for an additional 16 hospitals to implement newborn hearing screening. The numerator for this measure represents only the number of confirmed cases from 32 hospitals reporting data. There are actually 51 hospitals that have universal screening programs and these hospitals represent 87 percent of births.

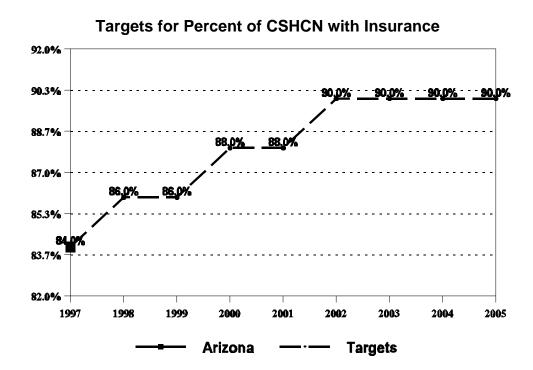




CORE PERFORMANCE MEASURE #11:

PERCENT OF CHILDREN WITH SPECIAL HEALTH CARE NEEDS IN THE STATE CSHCN PROGRAM WITH A SOURCE OF INSURANCE FOR PRIMARY AND SPECIALTY CARE

In 1997, 84 percent of children with special health care needs had a source of insurance. There are no updates to this data to date, but a new survey is in progress to ascertain insurance coverage for CSHCN. The following figure shows targets for this measure.

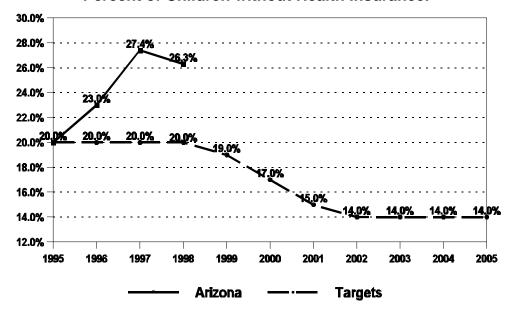


CORE PERFORMANCE MEASURE #12: PERCENT OF CHILDREN WITHOUT HEALTH INSURANCE

In 1998, 26.3 percent of children in Arizona were estimated to have no health insurance. The source of previous years estimates of uninsured children were from the Annie E. Casey Foundation Kidscount Databook. This measure has been discontinued in Kidscount. The most recent estimate available is from Annual Supplement, Current Population Survey, United States Census Bureau, march 1999. However this estimate of 26.3 percent is based on a relatively small sample size. Combined data from this source from 1994 through 1998 provides a less timely but more robust estimate of 24 percent and could be considered a 1996 rate since 1996 is the midpoint of that time period.

A recent telephone survey conducted during the year 2000 (Children 2000) estimates the percent of children without health insurance to be 16 percent; however, telephone surveys may underestimate the percent of uninsured because people in the lowest income categories are both less likely to have telephones and less likely to have health insurance and these people would not be included in the estimate.

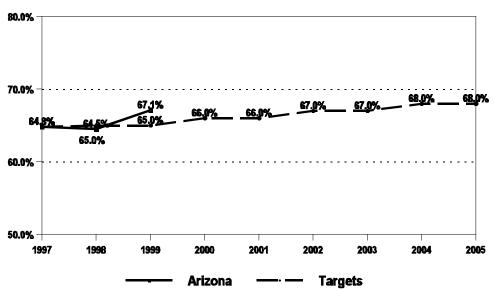
Percent of Children without Health Insurance.



CORE PERFORMANCE MEASURE #13: PERCENT OF POTENTIALLY MEDICAID ELIGIBLE CHILDREN WHO HAVE RECEIVED A SERVICE PAID BY THE MEDICAID PROGRAM

During fiscal year 1998-1999, 67.1 percent of the children eligible for Medicaid actually received a paid service, representing a four percent increase over the previous year and exceeding the target of 65 percent.

Percent of Medicaid Eligible Children who Received a Medicaid Service.

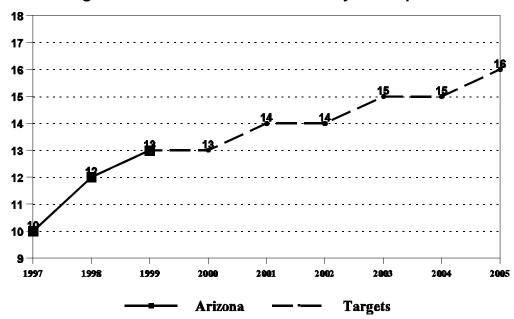


CORE PERFORMANCE MEASURE #14:

THE DEGREE TO WHICH THE STATE ASSURES FAMILY PARTICIPATION IN PROGRAM AND POLICY ACTIVITIES IN THE STATE CSHCN PROGRAM.

Out of a possible total of 18 points, OCSHCN scored 12 points for 1998. OCSHCN mostly met (score = 2) the characteristics on all six factors, with improvements in the areas of families participating on advisory councils and families participating in the development and review of the MCH Block Grant. OCSHCN added for the first time this year, families with children with traumatic brain injury to its Tsunami contractors list. In addition, families were more integrally involved in block grant work groups.

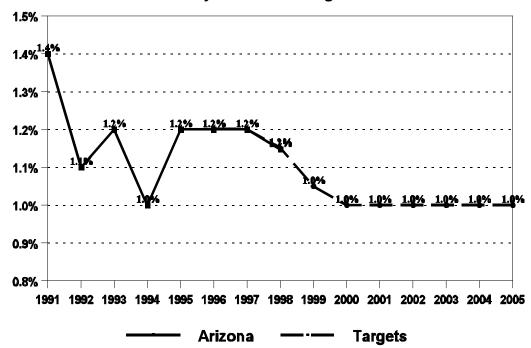
Degree to which State Assures Family Participation.



CORE PERFORMANCE MEASURE #15: PERCENT OF VERY LOW BIRTH WEIGHT LIVE BIRTHS.

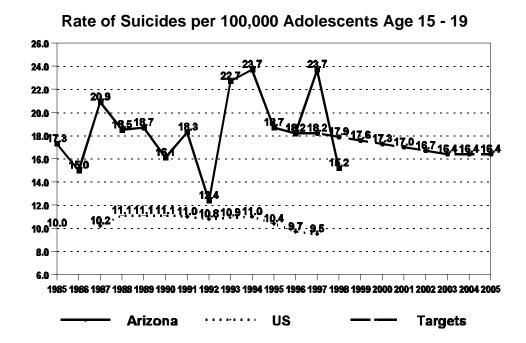
The very low birth weight rate has been relatively constant from 1992 through 1997 as shown in the following figure. In 1997, the objective was met to hold the rate of babies in Arizona born weighing less than or equal to 1,500 grams to 1.2 percent of live births.

Percent of Very Low Birth Weight Live Births.



CORE PERFORMANCE MEASURE #16: THE RATE PER 100,000 OF SUICIDE DEATHS AMONG YOUTHS AGED 15-19.

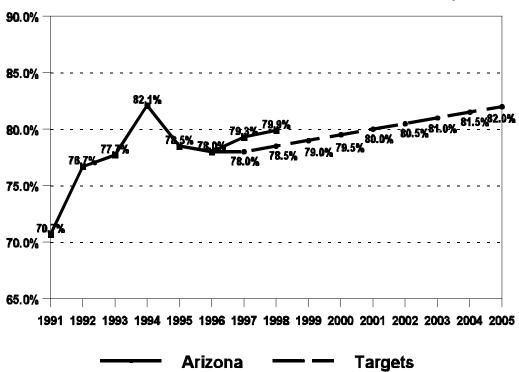
During the time period from 1985 to 1998, the adolescent suicide rate has fluctuated from a low of 15.0 per 100,000 adolescents in 1986 to a high of 23.7 in 1994 and again in 1997. In 1998 the rate was 15.2 deaths per 100,000 adolescents, the lowest rate observed in recent years and below the targeted rate of 17.9. The following figure shows that the adolescent suicide rates in Arizona are consistently higher than national rates.



CORE PERFORMANCE MEASURE #17: PERCENT OF VERY LOW BIRTH WEIGHT INFANTS DELIVERED AT FACILITIES FOR HIGH-RISK DELIVERIES AND NEONATES

In 1998 79.9 percent of very low birth weight babies were born at facilities with Level III neonatal intensive care units, exceeding the target set of 78.5 percent.



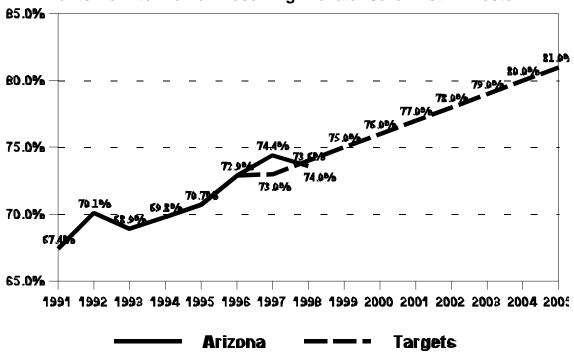


CORE PERFORMANCE MEASURE #18:

PERCENT OF INFANTS BORN TO PREGNANT WOMEN RECEIVING PRENATAL CARE BEGINNING IN THE FIRST TRIMESTER.

In recent years, there has been a steady upward trend in the percent of women receiving early prenatal care, culminating in 74.4 percent by 1997. In 1998 the percent dipped to 73.6 percent, slightly below the targeted rate of 74 percent.

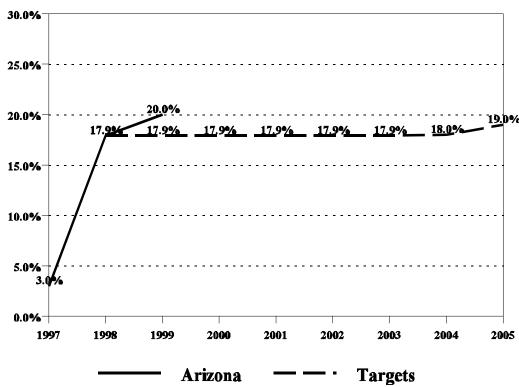




STATE PERFORMANCE MEASURE #01: PROPORTION OF LOW-INCOME WOMEN WHO RECEIVE REPRODUCTIVE HEALTH/FAMILY PLANNING SERVICES.

Approximately 20 percent of the 279,770 women age 15-44 estimated to be living in Arizona below 150 percent of the federal poverty level received a reproductive health/family planning service through Title V and/or Title X in 1999, representing a twelve percent increase over the proportion receiving services in 1998. The large apparent increase from three percent in 1997 to 17.9 percent in 1998 is due in part to the addition of Family Planning Council Data, which had not been used in the 1997 measure. Targets were reset last year to reflect the addition of this data source, and the 1999 target of 17.9 percent was exceeded.

Proportion of Low-Income Women Receiving Reproductive Health/Family Planning Services

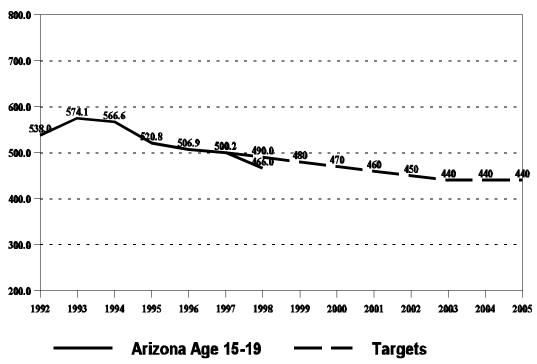


STATE PERFORMANCE MEASURE #02: HOSPITALIZATIONS FOR NONFATAL INJURIES AND POISONINGS PER 100,000 ADOLESCENTS AGE 15 THROUGH 19.

In the 1999 grant application, this measure was based on all children age 1-19. Since the 15-19 age group appears to be at a much higher risk level for hospitalizations for injury and poisoning, this measure has been refined to focus on that age group. Historical rates and performance objectives were revised in the 2000 application to reflect this change in focus. The 1-14 age group will also be monitored on an annual basis.

After rising to a level of 574.6 per 100,000 adolescents in 1994, the nonfatal injury and poisoning level has declined in each year since to a low of 466 in 1998, well below the targeted rate of 490 per 100,000 adolescents.

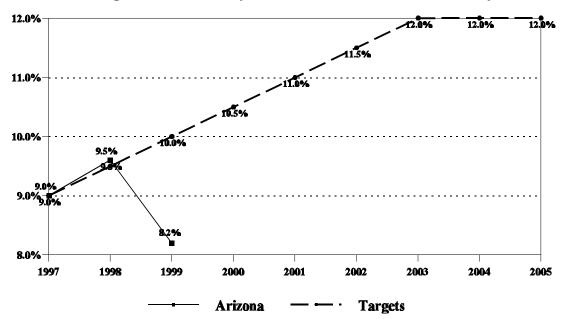
Hospitalizations for Nonfatal Injury and Poisoning per 100,000 Population Age 15-19.



STATE PERFORMANCE MEASURE #03: THE PERCENT OF LICENSED CHILD CARE CENTERS WHICH MEET NATIONAL QUALITY STANDARDS FOR HEALTH AND SAFETY

In 1999 8.2 percent of the licensed day care centers in Arizona were accredited, less than the 10 percent target set for 1999.

Percent of Licensed Child Care Centers Meeting National Quality Standards for Health and Safety

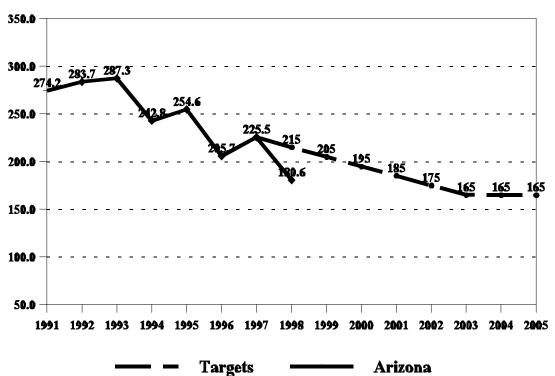


STATE PERFORMANCE MEASURE #04: ASTHMA HOSPITALIZATIONS PER 100,000 CHILDREN AGE 1 THROUGH 14

In the 1999 grant application, this measure was based on all children age 1-19. Since the 1-14 age group appears to be at a much higher risk level for hospitalizations for asthma, this measure was refined in the 2000 application to focus on that age group and performance objectives were revised to reflect this change in focus. The 15-19 age group will also be monitored on an annual basis.

Asthma hospitalization rates in 1998 dropped by 20 percent for children age 1-14 from the previous year to 180.6 per 100,000 children, which was the lowest rate observed during the period from 1991 through 1998, and far below the target rate of 215.

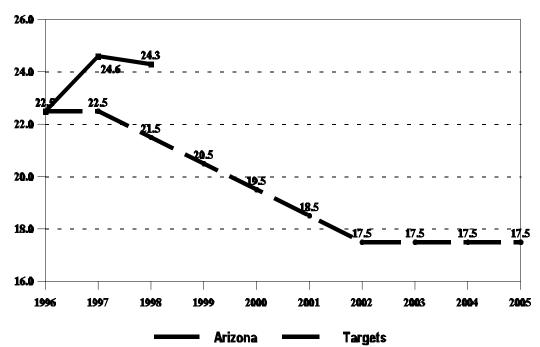
Asthma Hospitalization per 100,000 Children Age 1-14



STATE PERFORMANCE MEASURE #05: PREVENTABLE CHILD DEATHS PER 100,000 CHILDREN UNDER AGE 18.

In 1998, there were 305 deaths determined to have been preventable, representing a rate of 24.3 per 100,000 children under the age of 18 and for the second year the preventable death rate exceeded its target rate which was set at 21.5 for 1998.

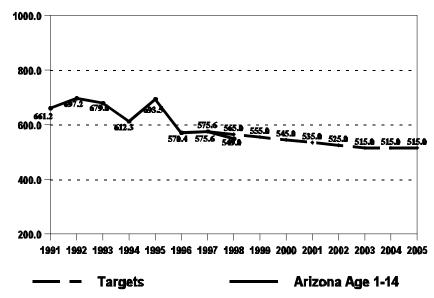
Preventable Child Deaths per 100,000 Children Under Age 18.



STATE PERFORMANCE MEASURE #06: THE RATE OF CHILDREN 1 THROUGH 19 HOSPITALIZED FOR AMBULATORY CARE SENSITIVE CONDITIONS PER 100,000.

Ambulatory care sensitive conditions¹⁵ are those conditions which would not likely require hospitalization if adequate primary care services had been provided. In the 1999 grant application, this measure was based on all children age 1-19. However, since the 1-14 age group appeared to be at a much higher risk level for hospitalizations for ambulatory care sensitive conditions, this measure was refined in the 2000 application to focus on that age group and objectives were revised to reflect this change in focus. The 15-19 age group will also be monitored on an annual basis. In 1998 there were 549 hospitalizations per 100,000 children age 1-14, a rate approximately five percent lower than the previous year and below the target which was set for 1998at 565 hospitalizations per 100,000 children.

Hospitalizations for Ambulatory Care Sensitive Conditions per 100,000 Population Age 1 - 14.



Source: Arizona Department of Health Services Hospital Discharge Data Base. Only principle diagnosis codes were used to identify ambulatory care sensitive conditions (unless further codes are specified): failure to thrive (783.4 under 1 year of age) congenital syphilis (090 with a principal diagnosis code indicating birth [V30-V39] and age under one year, or 090 with date of admission equal to date of birth), immunization preventable conditions including pertussis (033), rheumatic fever without mention of heart involvement (390), rheumatic fever with heart involvement (391), tetanus (037), polio (045), hemophilus meningitis (320.0); grand mal status and other epileptic convulsions (345); convulsions "A" and "B" (780.3); severe ENT infections including suppurative and unspecified otitis media (382, excluding cases with myringotomy with insertion of tube, procedure 20.01), pharyngitis (462), tonsilitis (463), URI (465), chronic pharyngitis (472.1); pulmonary and other respiratory tuberculosis (011, 012); COPD, including chronic bronchitis (491), emphysema (492), bronchiectasis (494), chronic airway obstruction not elsewhere classified (496) and acute bronchitis (466.0, only if a secondary diagnosis was present for 491, 492, 494, or 496); bacterial pneumonia (481, 482.2, 482.3, 482.9, 483, 485, 486 for ages over 60 days, in the absence of a secondary diagnosis of sickle cell [282.6]); asthma (493), diabetes A (250.1, 250.2, 250.3); diabetes B (250.8, 250.9); diabetes C (250.0); unspecified hypoglycemia (251.2), gastroenteritis (558.9), kidney/urinary infection (590, 599.0), 599.9); dehydration-volume depletion (276.5); iron deficiency anemia for age five and under (280.1, 280.8 and 280.9); nutritional deficiencies (260, 261, 262, 268.0, 268.1); pelvic inflammatory disease (614 for females only, in the absence of procedure code for hysterectomy [68.3-68.8]), and dental conditions (521, 522, 523, 525 and 528).

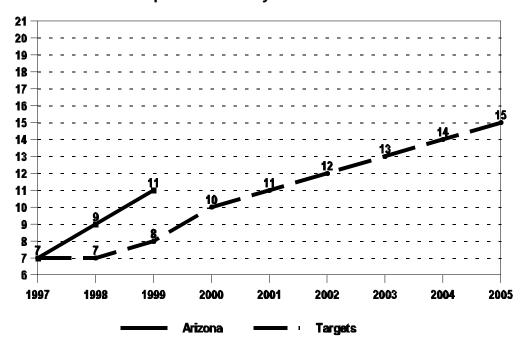
¹⁵

STATE PERFORMANCE MEASURE #07:

THE STATE TITLE V PROGRAM HAS ADOPTED AND RECOMMENDED A SET OF QUALITY STANDARDS FOR THE HEALTH CARE OF THE MCH POPULATION.

The current status of efforts to adopt quality standards for the MCH population is a score of 11 on a 21 point scale, which is an increase of two points since last year's application. (See detail below.)

State Adoption of Quality Standards/Guidelines.



*0 - Not Met; 1 - Partially Met; 2 - Mostly Met; 3 - Completely Met

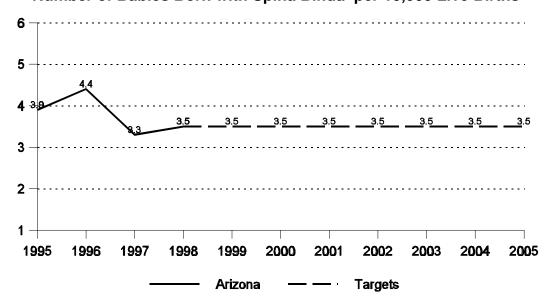
0 1 2 3*		
	1.	MCH identifies issues requiring standards and guidelines.
	2.	MCH obtains meaningful input from literature and stakeholders (i.e., the professional community, consumers, and other state agencies).
	3.	MCH drafts standards and guidelines and circulates them for all programs and major initiatives.
	4.	MCH facilitates the development of community consensus on standards and guidelines.
	5.	Standards and guidelines are institutionalized and published.
	6.	MCH has implemented standards and guidelines covering all of its programs and major initiatives.
	7.	MCH evaluates the effectiveness and usefulness of existing standards and guidelines.

STATE PERFORMANCE MEASURE #08: Number of babies born with spina bifida per 10,000 live births. 16

Each year approximately 70 infants are born in Arizona with neural tube defects resulting in an encephaly and subsequent neonatal death or life-long medical and developmental needs as a consequence of spina bifida. There is evidence that the daily consumption of 0.4 mg of folic acid before conception and during early pregnancy can reduce the number of children born with NTD by 50 percent.

The data sources for this measure are Arizona Department of Health Services Vital Statistics data for the number of live births (denominator) and the CRS program for the number of babies born with spina bifida (numerator).

Number of Babies Born with Spina Bifida per 10,000 Live Births

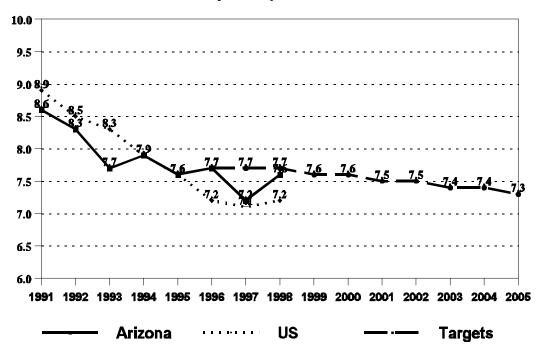


¹⁶This measure replaces a previous state-defined measure which focused on the percent of women who take a multiple vitamin with folic acid.

OUTCOME MEASURE #01: INFANT MORTALITY RATE PER 1,000 LIVE BIRTHS

The Arizona's infant mortality rate has been at or below the national levels for most of the decade for which data are available, with the exception of 1996, when Arizona's infant mortality rate was seven percent higher than the United States rate. The 1998 infant mortality rate of 7.6 in Arizona is above the national rate. Targets were set to hold the infant mortality rate at 7.7 per 1,000 births in 1997, and begin to decrease mortality by 0.15 (fifteen-hundredths of one) death per 1,000 live births per year beginning in 1998. The actual infant mortality rate for 1998 was 7.6, just below the set target of 7.7.

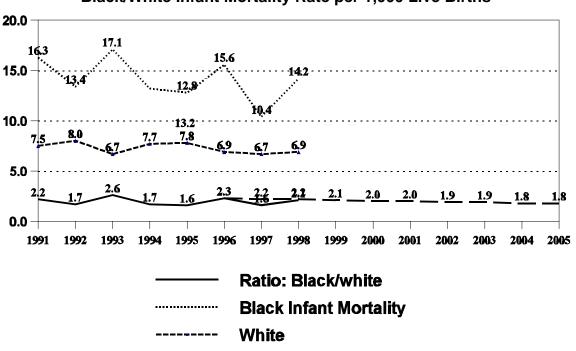
Infant Mortality Rate per 1,000 Live Births



OUTCOME MEASURE #02: THE RATIO OF THE BLACK INFANT MORTALITY RATE TO THE WHITE INFANT MORTALITY RATE

In 1996, the white infant mortality rate was 6.9 and the rate for black infants was 15.6 per 1,000 live births, representing a ratio of black to white infant mortality of 2.3. Targets were set to incrementally decrease the black infant mortality while holding the white infant mortality to its 1996 rate. A 33 percent drop in Black infant mortality in 1997 lead to a reduction in the disparity between black and white infant mortality to a ratio of 1.6, well below the targeted ratio of 2.2 for that year. In 1998, the Black infant mortality rate climbed back to 14.2 per 1,000 births and the disparity increased to 2.1, just below the level targeted for 1998 (see detail below). See also Appendix G for infant mortality rates for other racial and ethnic groups.

Black/White Infant Mortality Rate per 1,000 Live Births

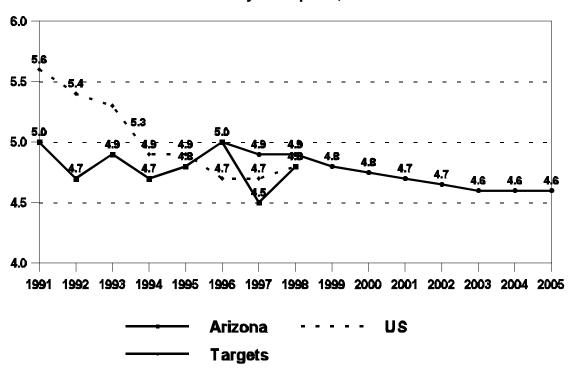


Target

OUTCOME MEASURE #03: THE NEONATAL MORTALITY RATE PER 1,000 LIVE BIRTHS

The neonatal mortality rate in the first 28 days of life mirrors the trends for infant mortality in both the United States and in Arizona. A decrease in Arizona neonatal mortality from 5.0 in 1996 to 4.5 in 1997 put the rate well below the target set of 4.9 per 1,000 births and, in fact, met the Healthy People 2000 objective. In 1998, neonatal mortality increased to 4.8 per 1,000 live births, still it was just below the target of 4.9 set for 1998.

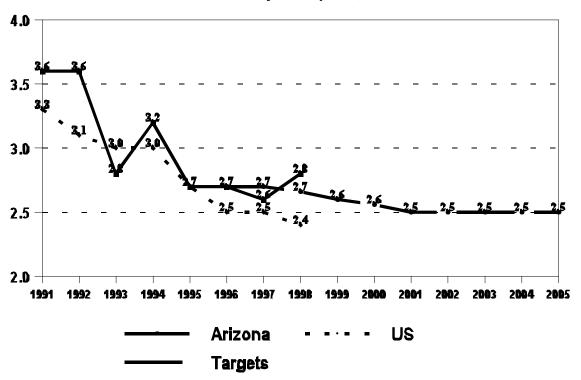
Neonatal Mortality Rate per 1,000 Live Births



OUTCOME MEASURE #04: THE POSTNEONATAL MORTALITY RATE PER 1,000 LIVE BIRTHS.

Postneonatal mortality rates represent the number of infant deaths from the 28th day of life through the end of the first year of life per 1,000 live births. A drop from 2.7 deaths in 1996 to 2.6 per 1,000 in 1997 put Arizona's postneonatal mortality rate below the targeted rate, which had been set to hold mortality to no more than 2.7 deaths per 1,000 live births in 1997. In 1998 the rate increased to 2.8, which was just above the target set at 2.7, and above the US rate of 2.4.

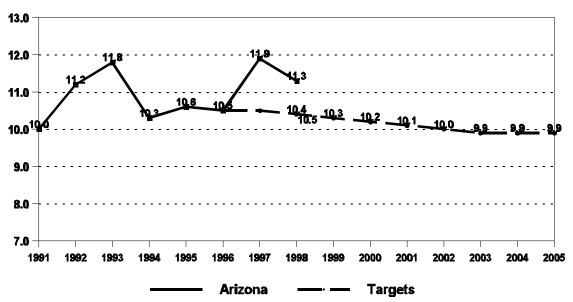
Postneonatal Mortality Rate per 1,000 Live Births



OUTCOME MEASURE #05: THE PERINATAL MORTALITY RATE PER 1,000 LIVE BIRTHS.

The perinatal mortality rate is the number of infant deaths in the first 7 days of life plus the number of fetal deaths divided by the number of live births plus the number of fetal deaths. In 1996, the rate was 10.5, and the target was set to hold the rate to no more than 10.5 for 1997. In fact, the perinatal mortality rate rose to 11.9 in 1997, the highest rate observed during the decade, and in 1998 it declined to 11.3, still above the targeted rate of 10.5.

Perinatal Mortality Rate per 1,000 Live Births

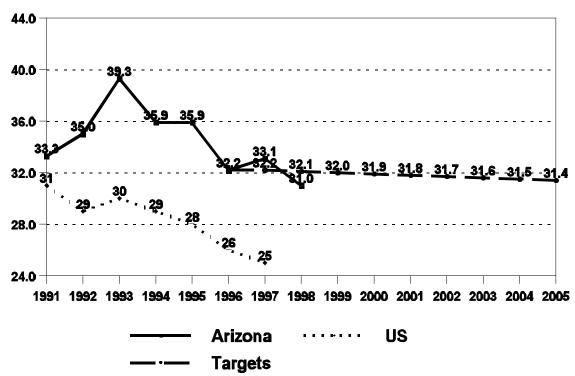


OUTCOME MEASURE #06: CHILD DEATH RATE PER 100,000 CHILDREN AGED 1-14

The childhood mortality rate for children age 1-14 in Arizona has been consistently higher than the national rate, although the rate has been generally declining in recent years in Arizona. The childhood mortality rate in 1998 was 31.0 deaths per 100,000 children, below the targeted rate of 32.1 which was set for 1998. See Appendix G for mortality rates for racial and ethnic groups within this age group.

	<u> 1996</u>	<u> 1997</u>	<u> 1998</u>
American Indian:	72.9	39.2	55.4
Black	38.8	40.4	27.8
Hispanic:	29.8	36.3	35.2
Non Hispanic White:	26.6	27.5	23.4

Child Mortality Rate per 100,000 Children Age 1-14



APPENDIX B: DISTRIBUTION OF NON-HOSPITAL PROVIDERS BY PRIMARY CARE AREA ———

	Distribution of Non-Hospital Providers by Primary Care Area (PCA)													
PCA	Primary Care Area	Area	Population	Certified Ambulance Services	Emergency Medical Techs	Pharmacies	Dentists	Pediatricians	Obstetricians	Midwives	PCPs	Pop/PCP		
13115	Ahwatukee	70	100,246	0	202	25	73	44	29	10	195	514		
19201	Ajo	1,530	4,603	1	20	1	0	1	1	0	4	1,279		
21119	Ak-Chin Indian Community	33	759	0	2	0	0	0	0	0	0	*		
21113	Apache Junction	89	36,791	0	80	8	5	5	4	2	23	1,614		
19202	Arivaca	1,160	14,090	0	28	0	3	4	3	0	10	1,468		
25301	Ash Fork	1,504	1,658	0	13	0	0	0	0	0	0	*		
13112	Avondale/Tolleson	81	49,812	0	81	7	13	6	6	0	28	1,805		
25303	Bagdad	521	2,895	1	16	0	0	0	0	0	3	1,113		
03204	Benson	923	9,645	3	30	3	4	2	2	1	10	946		
03201	Bisbee	624	20,884	2	71	2	2	5	4	1	20	1,024		
09203	Bonita/Klondyke	1,165	2,932	0	2	0	0	0	0	0	3	1,047		
13108	Buckeye	1,790	12,365	1	41	2	1	1	1	0	9	1,344		
15511	Bullhead City	185	32,410	3	135	7	24	9	7	0	47	684		
21103	Casa Grande	276	35,406	1	55	6	13	12	7	0	46	776		
19211	Catalina	137	7,509	1	22	2	4	0	0	0	7	1,104		
13104	Cave Creek	397	30,608	1	204	13	33	18	17	4	94	327		
13119	Chandler	60	177,793	1	307	30	92	61	36	3	169	1,052		
25302	Chino Valley	1,443	13,435	0	98	1	2	0	0	2	5	2,742		
27511	Cocopah Tribe	26	1,835	0	2	0	0	0	0	0	0	*		
12504	Colorado River Indian Tribes	341	3,051	0	0	0	0	0	0	0	0	*		
19203	Continental	669	14,385	1	48	1	4	1	0	1	8	1,754		
21117	Coolidge	73	10,536	0	10	1	4	1	1	0	4	2,395		
25313	Cordes Junction	1,005	4,301	1	29	0	1	0	0	0	1	5,376		
27507	Dateland	4,952	3,008	1	8	0	0	0	0	0	0	*		
15507	Dolan Springs	2,145	3,855	2	18	0	0	0	0	0	0	*		
03202	Douglas	256	20,498	1	42	5	4	5	5	0	14	1,423		
	Duncan	619	2,963	0	12	0	0	0	0	0	1	5,387		
13106	El Mirage	75	29,536	0	39	3	3	4	4	0	11	2,637		
	Elfrida	1,281	8,663	2	28	0	0	1	1	0	3	3,332		
21105	Eloy	453	13,926	1	31	0	0	1	1	0	3	4,974		
05311	Flagstaff	4,665	44,240	2	308	1	7	5	4	8	40	1,095		
5310	Flagstaff-Central	6	11,504	1	40	9	26	25	15	0	64	*		

	Distribution of Non-Hospital Providers by Primary Care Area (PCA)													
PCA	Primary Care Area	Area	Population	Certified Ambulance Services	Emergency Medical Techs	Pharmacies	Dentists	Pediatricians	Obstetricians	Midwives	PCPs	Pop/PCP		
5312	Flagstaff-West Central	12	19,380	0	64	8	19	6	6	2	31	621		
21115	Florence	1,072	17,430	0	22	3	3	4	4	0	11	1,556		
	Fort McDowell Mohave-Apache Indian Community	39	608	0	0	0	0	1	1	0	1	608		
15513	Fort Mojave Indian Tribe	43	6,565	0	13	1	0	0	0	0	3	2,345		
27509	Fort Yuma-Quechan Tribe	90	1,780	0	1	0	0	0	0	0	0	*		
05301	Fredonia	2,770	2,437	0	2	0	1	0	0	0	1	2,437		
13121	Gila Bend	2,991	4,968	1	24	0	0	1	1	0	3	1,911		
21121	Gila River Indian Community	583	14,324	0	19	0	0	5	3	0	13	1,069		
07103	Gila-Central-Globe	689	22,166	0	98	6	5	7	6	0	25	887		
07101	Gila-Northern-Young	786	18,906	1	71	4	7	7	6	0	25	762		
	Gila-Southern-Hayden	147	1,646	0	8	0	0	0	0	0	1	1,646		
07102	Gila-Young-Tonto Basin	1,301	1,922	2	75	0	2	0	0	2	2	1,201		
	Gilbert	34	103,325	0	223	20	32	49	34	2	125	828		
13111	Glendale	30		0	181	12	52	27	21	2	89	1,299		
09201	Graham-Southern	1,223	23,313	1	69	5	12	10	9	1	23	1,022		
19205	Green Valley	9	13,118	0	15	3	5	5	5	0	17	772		
13117	Guadalupe	1	5,395	0	1	0	0	3	3	0	4	1,349		
05305	Havasupai Tribe	277	554	0	0	0	0	0	0	0	0	*		
17307	Heber-Overgaard	318	2,035	1	18	1	1	1	1	1	2	1,131		
-	Holbrook	1,374	7,885	1	27	3	2	3	2	0	6	1,408		
17310	Hopi Nation	3,245	13,571	0	17	0	0	0	0	0	0	*		
	Hualapai Tribe	1,574	1,233	0	1	0	0	1	1	0	1	1,233		
-	Kaibab Paiute Tribe	168	378	0	0	0	0	0	0		0	*		
	Kearny	69		1	22	1	1	1	1	0	3	1,123		
	Kingman	4,721	45,227	0	185	8	12	8	6	0	50	901		
	Lake Havasu City	382	46,923	1	112	8		10		_	56	841		
	Litchfield Park	4	5,349	0	6	2	5	3		0	12	461		
11	Littlefield	4,864	4,876	1	18	1	0	1	1	2		1,434		
13125		4	4,414	0			1	4	3	1		409		
-	Marana	476		2				2		1	9	1,418		
	Maricopa	362	8,735	0				0		0		8,735		
13118		122	216,498	1	411	41	110	45			166	1,304		
	Morenci	1,400		1	33		2	3			7	895		
	Navajo Nation	14,516		4				19				1,573		

	Distribution of Non-Hospital Providers by Primary Care Area (PCA)													
PCA	Primary Care Area	Area	Population	Certified Ambulance Services	Emergency Medical Techs	Pharmacies	Dentists	Pediatricians	Obstetricians	Midwives	PCPs	Pop/PCP		
15512	Needles/Topock	91	1,416	1	10	0	0	0	0	0	0	*		
23201	Nogales	417	28,278	2	36	5	5	10	8	0	24	1,159		
05315	Page	23	9,430	0	0	3	0	5	5	0	16	582		
13103	Paradise Valley	138	396,697	0	598	63	244	128	75	19	480	826		
12501	Parker	467	8,126	0	12	3	2	3	3	0	12	666		
19217	Pascua Yaqui Tribe	1	3,261	0	2	0	0	0	0	0	0	*		
23203	Patagonia	555	3,862	0	31	1	1	1	1	0	3	1,136		
13105	Peoria	91	349,789	1	512	75	195	103	67	9	401	872		
13110	Phoenix Sunnyslope	4	22,599	0	16	7	5	11	9	0	45	504		
13113	Phoenix-Central	4	7,353	0	3	1	0	1	1	0	2	3,676		
13113	Phoenix-Central	107	434,706	0	386	72	242	191	114	13	605	719		
13114	Phoenix-South Central	42	188,801	6	508	34	31	124	64	2	461	410		
13123	Phoenix-South Mountain	54	101,763	0	36	15	18	21	10	0	54	1,885		
	Pima	543	3,797	0	26	0	0	1	1	0	3	1,117		
	Prescott	204	43,409	1	109	13	48	28	22	4	91	479		
25304	Prescott Valley	34	28,895	0	58	4	5	4	3	0	12	2,449		
	Quartzsite	1,978	6,296	0	16	0	0	1	1	0	7	926		
13109	Queen Creek	64	10,385	0	35	0	2	1	1	0	3	3,054		
01305	Round Valley	1,085	9,798	1	44	2	2	3	3	2	11	891		
12503	Salome	1,953	1,777	0	16	0	0	0	0	0	0	*		
13122	Salt River Pima-Maricopa Indian Community	79		0	12	2	1	1	0	1	2	2,101		
07111	San Carlos Apache Tribe	2,697	9,793	0	20	0	0	1	0	0	1	9,793		
27506	San Luis	10	8,228	0	17	1	0	0	0	0	1	8,228		
21107	San Manuel	1,223	19,241	1	28	1	2	2	2	0	8	2,405		
19204	San Xavier District	111	1,584	0	1	0	0	5	5	0	5	317		
01301	Sanders	1,597	1,183	1	13	0	0	0	0	0	0	*		
13101	Scottsdale	1,280	231,179	3	256	54	206	155	122	8	482	480		
05313	Sedona	118	14,509	0	82	5	13	5	4	1	18	797		
17305	Show Low	1,238	29,088	3	119	7	24	14	14	3	49	599		
3203	Sierra Vista	319		2	185	7	19	14	7	0	65	757		
	Somerton	136			21	0		3		3	13	1,421		
01303	St. Johns	1,431	5,118	1	29	1	3	0		0	1	5,118		
	Superior	858			40			0		0	5	2,224		
	Tempe	46			530		150	135		8	383	754		
	Tohono O'Odham Nation	4,180			17			6			10	1,227		
	Tombstone	379			2		0	0			1	2,179		

	Distribution of Non-Hospital Providers by Primary Care Area (PCA)													
PCA	Primary Care Area	Area	Population	Certified Ambulance Services	Emergency Medical Techs	Pharmacies	Dentists	Pediatricians	Obstetricians	Midwives	PCPs	Pop/PCP		
23205	Tubac	264	6,959	2	38	0	0	0	0	0	1	8,699		
19210	Tucson-Central	55	203,823	3	303	39	31	116	54	7	304	671		
19208	Tucson-East	12	61,112	0	127	7	24	12	7	4	36	1,717		
19214	Tucson-East Central	14	79,929	0	160	28	159	72	46	12	261	306		
19206	Tucson-North Central	15	70,640	1	109	9	38	21	18	6	82	866		
19209	Tucson-Northeast	313	140,720	2	339	22	81	77	46	19	312	450		
19215	Tucson-Northwest	235	77,079	0	319	12	16	21	16	4	124	621		
19213	Tucson-South Central	168	14,501	1	37	0	0	0	0	0	2	9,063		
19207	Tucson-Southeast	477	116,423	0	345	14	29	15	6	7	85	1,376		
27505	Wellton	364	4,649	0	4	0	0	0	0	0	0	*		
01311	White Mountain Apache Tribe	2,620	11,424	2	26	0	0	5	5	2	9	1,328		
13107	Wickenburg	1,734	13,346	1	44	3	4	10	10	0	20	661		
03205	Willcox/Bowie	2,009	13,382	2	55	5	2	1	1	0	11	1,195		
05309	Williams	3,467	7,466	1	56	2	2	3	3	0	10	762		
17301	Winslow	385	13,171	1	25	4	5	2	2	0	16	844		
25309	Yavapai-Northeast	1,216	38,179	5	161	3	17	13	11	2	42	900		
25317	Yavapai-Prescott Indian Tribe	12	2,171	0	9	0	0	0	0	1	0	*		
25305	Yavapai-South	2,080	6,829	0	25	0	0	1	1	0	5	1,423		
27503	Yuma-East	84	12,922	0	76	2	2	2	2	0	9	1,436		
27502	Yuma-North	7	28,296	0	32	2	0	2	2	0	11	2,526		
27500	Yuma-South	28	58,580	2	170	10	38	29	17	5	84	696		
27501	Yuma-West	27	2.158	0	0	0	0	0	0	0	0	*		

APPENDIX C: LICENSED HOSPITAL BEDS AND PERINATAL CARE LEVEL BY COUNTY —

Licensed Hospital Beds and Perinatal Care Level in Arizona by County

County	Name	Type	Total Beds	Med/Surg	Psych	Rehab	Maternity	Peds	ICU	CCU	Perinatal Care Level
Apache	Sage Memorial Hospital	Н	45	25			10	10			
	White Mountain Regional Medical Center	RGH	25	21			4				
	Total Apache County		70	46			14	10	0	0	
Cochise	Benson Hospital	Н	22	19			3				
	Copper Queen Community Hospital	Н	28	21			3		4		
	Northern Cochise Community Hospital	RGH	24	24							
	Sierra Vista Community Hospital	Н	83	62			15	6			l
	Southeast Arizona Medical Center	Н	49	35			8	6			
	Total Cochise County		206	161			29	12	4	0	
Coconino	Aspen Hill Hospital	SH	26		26						
	Flagstaff Medical Center	Н	122	70		12	14	6	20		II EQ
	Page Hospital	Н	25	19			4	2			
	The Guidance Center	SH	40		40						
	Total Coconino County		213	89	66	12	18	8	20	0	
Gila	Cobre Valley Community Hospital	Н	49	37			8		8		
	Payson Regional Medical Center	Н	66	59					7		
	Total Gila County		115	96	0	0	8	0	15	0	
Graham	Mount Graham Community Hospital, Inc.	Н	44	30			10		4		
	Total Graham County		44	30	0	0	10	0	4	0	
La Paz	Parker Community Hospital	Н	39	36					3		
	Total La Paz County		39	36	0	0	0	0	3	0	
Maricopa	Arizona Heart Hospital	Н	59	45					14		
	Arizona State Hospital	SH	489								
	Arrowhead Community Hospital & Medical Center	Н	87	59			19		9		II
	Beverly Specialty Hospital-phoenix	SH	48	48							
	Chandler Regional Hospital	Н	120	90			18		12		П
	Charter Behavioral Health System of Arizona/East Valley	SH	44								
	Charter Behavioral Health System of Arizona/Glendale	SH	60		60						

Licensed Hospital Beds and Perinatal Care Level in Arizona by County

County	Name	Туре	Total Beds	Med/Surg	Psych	Rehab	Maternity	Peds	ICU	CCU	Perinatal Care Level
	Columbia Paradise Valley Hospital	Н	128	102			12		14		II
	Community Hospital Medical Center	Н	43	27			8		8		
	Del E. Webb Memorial Hospital	Н	161	74	54	15			18		
	Desert Samaritan Medical Center	Н	414	270	62		27	20	35		II EQ
	Desert Vista Hospital	SH	52		52						
	Good Samaritan Regional Medical Center	Н	562	346	34	30	89		63		III
	Healthsouth Meridian Point Rehab Hospital	SH	43			43					
	Healthsouth Valley of the Sun Rehabilitation	SH	42			42					
	John C Lincoln Hospital Deer Valley	Н	74	49			10	5	10		1
	John C. Lincoln Hospital & Health Center	Н	240	173			27		40	40	II
	Los Ninos Hospital	SH	15					15			
	Maricopa Medical Center	Н	541	283	92		44	42	40		III
	Maryvale Hospital Medical Center	Н	213	164			25	8	16		II.
	Mesa General Hospital Medical Center	Н	130	73		12	23	11	11		II
	Mesa Lutheran Hospital	Н	315	189	32	30	22	18	24		II
	Paradise Valley Psychiatric Services	SH	19		19						
	Phoenix Baptist Hospital & Medical Center	Н	226	157				8	28		II
	Phoenix Childrens Hospital, Inc.	Н	128		18			89	21		III
	Phoenix Memorial Hospital	Н	183	116			24	17	26		II
	Phoenix Regional Medical Center	Н	277	200	18	22			37		
	Saint Luke's Behavioral Health Services	SH	70		70						
	Saint Luke's Medical Center	Н	221	165	24	16			20	20	
	Samaritan Behavioral Health Ctr - Scottsdale	SH	70		70						
	Scottsdale Healthcare-Osborn	Н	261	179		16	20	14	32		II
	Scottsdale Healthcare Hospitals-Shea	Н	251	199			16	6	30		II
	St Joseph's Hospital and Medical Center	Н	549	321		38	43	71	76		III
	Tempe Saint Lukes Hospital	Н	106	41	21		20	14	10		1
	Thunderbird Samaritan Medical Center	Н	292	164	62		41		25		II EQ
	Valley Lutheran Hospital	Н	184	173			12	7	16		
	Vencor Hospital - Phoenix	Н	58	53					5		
	Walter O. Boswell Memorial Hospital	Н	267								
	Wendy Paine O'Brien Treatment Center Phoenix	SH	23		23						
	Wickenburg Regional Hospital	Н	23	20					3		

Licensed Hospital Beds and Perinatal Care Level in Arizona by County

County	Name	Туре	Total Beds	Med/Surg	Psych	Rehab	Maternity	Peds	ICU	CCU	Perinatal Care Level
	Total Maricopa County		7,088	3,780	711	264	500	345	643	60	
Mohave	Havasu Regional Medical Center	Н	99	85			6		8		
	Kingman Regional Medical Center	Н	110	76			19	7	8		1
	Mohave Valley Hospital	Н	12	12							
	Western Arizona Regional Medical Center	Н	90	70			8		12		1
	Total Mohave County		311	243	0	0	33	7	28	0	
Navajo	Navapache Regional Medical Center	Н	54	38			10		6		
	Winslow Memorial Hospital	RGH	34	20			10	4			
	Total Navajo County		88	58	0	0	20	4	6	0	
Pima	Carondelet Saint Mary's Hospital & Health Ctr	Н	393	256	24	28	19	17	40		I
	Carondelet St Joseph's Hospital & Health Center	Н	270	185		20	41		24		II EQ
	Carondelet St. Joseph's Hospital Behavioral Health (O'rielly	SH	15		15						
	Columbia El Dorado Hospital	Н	135	77	15	21			22		
	Columbia Northwest Medical Center	Н	162	108	30		8		16		1
	Desert Hills Center for Youth and Families	SH	12		12				0		
	Healthsouth Rehabilitation Institute - Tucson	SH	63			63			0		
	Kino Community Hospital	Н	190	93	51		23	10	13		1
	Palo Verde Mental Health Services	SH	52		52						
	Sierra Tucson Inc	SH	55		55						
	Southern Arizona Rehabilitation Hospital	SH	60			60					
	Summit Hospital of Southeast Arizona Inc	SH	21			21					
	Tucson General Hospital	Н	106	62	15		19		10		1
	Tucson Heart Hospital	Н	60	46					14		
	Tucson Medical Center	Н	593	394	62		46	54	37		III
	University Medical Center	Н	365	176	8		50	69	62		III
	Vencor Hospital - Tucson	SH	51	51							
	Westcenter	SH	40			40					
	Total Pima County		2643	1448	339	253	206	150	238	0	
Pinal	Casa Grande Regional Medical Center	Н	116	86			13	6	11		
	Central Arizona Medical Center	Н	36	10	20			3	3		
	Total Pinal County		152	96	20	0	13	9	14	0	
Santa Cruz	Carondelet Holy Cross Hospital, Inc.	Н	31	22			5	2	2		
	Total Santa Cruz County		31	22	0	0	5	2	2	0	

Licensed Hospital Beds and Perinatal Care Level in Arizona by County

County	Name	Туре	Total Beds	Med/Surg	Psych	Rehab	Maternity	Peds	ICU	CCU	Perinatal Care Level
Yavapai	Marcus J. Lawrence Medical Center	Н	99	77			8	4	10		
	Yavapai Regional Medical Center	Н	87	56			15	8	8		1
	Total Yavapai County		186	133	0	0	23	12	18	0	
Yuma	Yuma Regional Medical Center	Н	237	167			23	20	27		II EQ
	Total Yuma County		237	167	0	0	23	20	27	0	
ARIZONA	TOTAL ALL COUNTIES		11,423	6,405	1,136	529	902	579	1,022	60	

APPENDIX D: SEXUALLY TRANSMITTED DISEASES WOMEN OF CHILDBEARING YEARS

	Se	xually Trans	mitted Disea	ses per 100	,000 Women	Age 15-44		
Gonorrhea	1991	1992	1993	1994	1995	1996	1997	1998
15-19	583.5	518.9	491.2	477.3	409.0	413.7	350.3	355.5
20-24	448.2	407.4	401.9	324.7	355.4	341.8	277.0	300.0
25-29	209.0	184.6	193.8	139.3	172.4	155.1	168.5	179.3
30-34	116.6	112.7	117.5	88.9	110.5	83.5	98.8	97.7
35-39	57.5	62.4	56.9	38.4	62.7	70.9	67.6	62.9
40-44	28.5	29.3	30.7	22.7	28.6	29.6	26.6	30.3
Total 15-44		529.5	431.2	393.3	401.8	369.4	357.6	360.6
Chlamydia	1991	1992	1993	1994	1995	1996	1997	1998
15-19	2,753.5	2,412.6	2,648.4	2,293.8	2,396.2	2,318.0	2,330.2	2,338.1
20-24	2,503.0	2,140.0	2,112.1	1,789.4	2,056.1	2,226.9	1,889.9	2,000.0
25-29	921.8	759.0	791.3	673.3	748.0	738.0	726.8	697.0
30-34	426.8	343.3	331.7	294.2	277.3	311.8	314.0	277.9
35-39	204.3	156.7	162.4	136.0	142.6	126.9	109.9	121.5
40-44	91.9	65.9	79.0	59.6	64.6	63.8	51.5	57.9
Total 15-44		1,392.8	1,183.6	1,037.5	1,101.7	1,065.4	1,039.0	1,051.5
Syphilis	1991	1992	1993	1994	1995	1996	1997	1998
15-19	37.0	18.1	12.0	4.7	5.3	13.0	8.7	9.7
20-24	50.4	27.4	19.5	12.6	8.6	15.7	15.5	22.5
25-29	43.0	12.2	9.3	9.6	7.9	13.9	17.9	19.5
30-34	24.8	12.1	7.7	9.6	6.4	8.8	15.1	19.2
35-39	16.3	7.1	8.8	5.0	4.1	10.3	14.8	15.6
40-44	11.4	4.9	4.3	1.6	3.4	5.3	8.1	7.9
Total 15-44		294.2	236.1	229.6	226.0	215.9	214.5	213.3

APPENDIX E: SELECTED PERINATAL STATISTICS, ARIZONA 1988-1998

Characteristic	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
NUMBER OF BIRTHS	65,544	67,128	68,814	68,040	68,675	69,037	70,896	72,386	75,094	75,563	77,940
	,	,	,	,	-	ENT OF L			,	,	,
AGE OF MOTHER											
≤19 years	13.8	14.0	14.2	14.9	15.0	15.1	15.2	15.2	15.0	12.3	12.6
≥30 years	25.4	26.4	27.4	27.7	28.6	28.9	30.1	30.3	30.2	32.7	32.6
MARITAL STATUS											
Unmarried	28.6	30.7	32.6	35.0	36.2	37.8	38.2	38.2	38.8	37.7	38.4
MOTHER'S EDUCATION											
<9 years	6.9	8.4	8.3	8.8	11.7	8.8	8.8	8.9	9.3	9.0	8.8
MOTHER'S ETHNIC GROUP											
White ¹	60.8	58.8	57.7	56.2	54.9	54.1	53.3	53.2	51.3	50.1	49.5
Hispanic	24.3	26.3	28.1	29.7	31.4	32.2	33.5	34.7	36.5	37.0	37.0
Black	3.7	3.8	3.7	3.7	3.6	3.5	3.5	3.1	3.2	3.3	3.4
American Indian	9.5	9.4	9.1	8.9	8.6	8.4	7.8	7.0	7.1	7.0	7.0
Other	1.7	1.6	1.4	1.5	1.6	1.8	2.0	2.0	2.1	2.6	3.1
PRENATAL CARE BEGIN											
1 st Trimester	66.2	64.5	66.2	67.4	70.1	68.9	69.8	70.7	72.9	74.4	73.6
3 rd Trimester	7.2	8.2	7.2	6.9	5.8	6.0	6.0	6.4	5.7	4.8	4.9
No Care	2.6	3.6	2.7	2.3	2.2	2.4	1.8	1.6	1.6	1.8	2.1
PRENATAL VISITS											
1-4	7.2	7.4	7.1	7.1	5.5	5.6	5.6	5.4	5.1	4.8	5.0
≥5	87.9	86.3	88.1	88.6	90.2	89.8	88.6	87.3	90.6	91.6	89.4
≥9	70.2	68.0	70.6	70.6	74.6	72.2	66.9	71.0	74.3	75.6	74.4
≥13	28.0	27.6	28.9	30.6	31.9	28.8	26.9	26.5	28.8	29.9	29.2
MEDICAL RISK/											
COMPLICATIONS	52.1	46.6	46.1	48.5	46.4	46.7	47.4	45.5	46.2	47.6	45.9
GESTATIONAL AGE ³											
≤37 weeks	12.8	12.6	13.4	13.7	14.3	15.3	15.6	16.0	17.0	17.5	17.5
BIRTH WEIGHT											
<2,500 grams	6.3	6.4	6.5	6.7	6.5	6.7	6.8	6.8	6.8	6.9	6.8
<1,500 grams	1.0	1.0	1.3	1.4	1.1	1.2	1.0	1.2	1.2	1.2	1.1
CHILD'S SEX											
Male	51.2	51.4	51.0	51.3	51.5	50.7	51.0	51.2	50.9	51.8	51.2
Female	48.8	48.6	49.0	48.7	48.9	49.3	49.0	48.8	49.1	48.2	48.8
PLURALITY											
Multiple births	2.0	2.0	2.3	2.1	2.2	2.2	2.3	2.4	2.5	2.5	2.6
CAESAREAN DELIVERY	17.0	18.8	18.6	18.4	17.9	17.0	17.0	16.9	16.2	17.0	17.3
PLACE OF DELIVERY											
Hospital ⁴	97.2	98.4	98.7	98.9	99.0	99.0	99.1	99.2	99.2	99.1	99.2
ATTENDANT AT BIRTH	7.0				7.0	0.4	0.5	0.5		0.5	0.4
Midwife ⁵	7.3	7.8	6.3	7.2	7.9	9.1	8.5	8.5	9.0	9.5	9.1
PREVIOUS LIVE BIRTHS	20.0	04.0	60.4	04.7	04.0	04.7	04.0	00.0	04.0	04.4	04.0
1 or more	62.2	61.8	62.1	61.7	61.8	61.7	61.0	60.2	61.0	61.1	61.3

¹ Non-Hispanic.

² Since 1989 these are reported medical risks for this pregnancy and/or complications of labor and delivery. For 1988 data reported as complications of pregnancy, illnesses concurrent with pregnancy, and/or complications of labor/delivery.

³ Gestational age is physician's estimate since 1989. For 1988 data on gestational age were computed from information on "date of birth" and "date of last normal menses".

⁴ Hospital, clinic, medical center or maternity home.

⁵ Licensed Midwife or Certified Nurse Midwife.

APPENDIX F: HOSPITAL ADMISSION STATISTICS FOR CHILDREN -

NUMBER OF HOSPITAL ADMISSIONS AGE 1-14

	1991	1992	1993	1994	1995	1996	1997	1998
ALL CAUSES	}							
Male	9,790	9,818	9,532	9,172	9,210	9,395	10,061	10,029
Female	7,393	7,417	7,333	7,258	7,219	7,433	7,887	7,826
Total	17,183	17,235	16,865	16,430	16,429	16,828	17,948	17,855
ABUSE AND I	NEGLECT							
Male	23	20	20	20	19	27	23	27
Female	14	23	16	21	16	25	15	16
Total	37	43	36	41	35	52	38	43
A MBULATOR	Y CARE SEN	SITIVE COND	ITIONS					
Male	3,016	3,219	3,291	3,126	3,461	2,929	3,131	2,960
Female	2,290	2,518	2,514	2,268	2,687	2,449	2,422	2,444
Total	5,306	5,737	5,805	5,394	6,148	5,378	5,553	5,404
A STHMA								
Male	1,417	1,457	1,574	1,387	1,434	1,229	1,402	1,185
Female	783	877	882	752	823	710	774	593
Total	2,200	2,334	2,456	2,139	2,257	1,939	2,176	1,778
DIABETES								
Male	124	139	150	154	127	112	131	129
Female	140	154	122	114	113	124	125	172
Total	264	293	272	268	240	236	256	301
INJURY AND	Poisoning-N	Nonfatal						
Male	1,312	1,400	1,228	1,217	1,204	1,331	1,399	1,331
Female	653	682	650	639	629	686	648	688
Total	1,965	2,082	1,878	1,856	1,833	2,017	2,047	2,019
MOTOR VEHI	ICLE ACCIDE	NTS						
Male	387	389	420	449	514	601	649	634
Female	213	188	218	250	291	361	384	410
Total	600	577	638	699	805	962	1,033	1,044
SUBSTANCE								
Male	112	100	97	127	86	101	111	116
Female	106	106	80	124	87	95	116	125
Total	218	206	177	251	173	196	227	241
SUICIDE ATT								
Male	17	20	17	18	30	17	15	26
Female	83	74	73	92	59	77	59	86
Total	100	94	90	110	89	94	74	112

RATE OF HOSPITAL ADMISSIONS AGE 1-14

	1991	1992	1993	1994	1995	1996	1997	1998
ALL CAUSES I	PER 1,000							
Male	23.9	23.3	21.8	20.4	20.3	18.9	19.8	19.5
Female	18.8	18.4	17.5	16.8	16.7	16.7	17.2	16.7
Total	21.4	20.9	19.7	18.7	18.5	17.8	18.6	18.1
ABUSE AND N	EGLECT per	100,000						
Male	5.6	4.8	4.6	4.4	4.2	5.4	4.5	5.2
Female	3.6	5.7	3.8	4.9	3.7	5.6	3.3	3.4
Total	4.6	5.2	4.2	4.7	3.9	5.5	3.9	4.4
AMBULATORY	CARE SENS	SITIVE CONDI	TIONS per 1	00,000				
Male	735.2	765.2	753.7	695.1	763.9	588.5	617.2	574.2
Female	583.9	626.1	601.0	526.0	619.9	550.2	529.4	521.3
Total	661.2	697.2	679.0	612.3	693.5	570.4	575.6	549.0
ASTHMA PER	100,000							
Male	345.4	346.4	360.5	308.4	316.5	246.9	276.4	229.9
Female	199.6	218.1	210.8	174.4	189.9	159.5	169.2	126.5
Total	274.2	283.7	287.3	242.8	254.6	205.7	225.5	180.6
DIABETES PER	R 100,000							
Male	30.2	33.0	34.4	34.2	28.0	22.5	25.8	25.0
Female	35.7	38.3	29.2	26.4	26.1	27.9	27.3	36.7
Total	32.9	35.6	31.8	30.4	27.1	25.0	26.5	30.6
INJURY AND P	OISONING-N	onfatal per	100,000					
Male	319.8	332.8	281.2	270.6	265.8	267.4	275.8	258.2
Female	166.5	169.6	155.4	148.2	145.1	154.1	141.6	146.7
Total	244.9	253.0	219.7	210.7	206.8	213.9	212.2	205.1
MOTOR VEHIC	LE ACCIDEN	тs per 100	,000					
Male	94.3	92.5	96.2	99.8	113.5	120.8	127.9	123.0
Female	54.3	46.7	52.1	58.0	67.1	81.1	83.9	87.5
Total	74.8	70.1	74.6	79.3	90.8	102.0	107.1	106.1
SUBSTANCE/D	ORUG ABUSE	e per 100,00	00					
Male	27.3	23.8	22.2	28.2	19.0	20.3	21.9	22.5
Female	27.0	26.4	19.1	28.8	20.1	21.3	25.4	26.7
Total	27.2	25.0	20.7	28.5	19.5	20.8	23.5	24.5
SUICIDE ATTE	MPTS-AGE 1	0-14 per 10	00,000					
Male	12.7	14.4	11.8	12.1	18.0	9.9	8.4	14.3
Female	64.0	55.6	53.3	65.2	40.1	50.4	37.5	53.1
Total	37.7	34.5	32.1	38.0	28.4	28.9	22.0	32.6

NUMBER OF HOSPITAL ADMISSIONS AGE 15-19

	1991	1992	1993	1994	1995	1996	1997	1998
ALL CAUSES								
Male	3,553	3,359	3,309	3,285	3,064	3,565	3,650	3,610
Female	13,685	13,962	13,684	13,823	14,149	14,896	15,062	15,859
Total	17,238	17,321	16,993	17,108	17,213	18,461	18,712	19,469
ABUSE AND N	•	•	•	•	•	•	•	,
Male	0	1	0	0	0	1	2	0
Female	1	1	1	3	1	2	7	4
Total	1	2	1	3	1	3	9	4
AMBULATORY	CARE SEN	SITIVE COND	ITIONS					
Male	359	328	329	309	411	360	393	344
Female	598	620	621	608	644	591	546	583
Total	957	948	950	917	1,055	951	939	927
A STHMA								
Male	101	88	93	67	90	86	117	70
Female	144	144	175	150	171	131	122	109
Total	245	232	268	217	261	217	239	179
DIABETES								
Male	88	101	100	94	110	104	107	131
Female	105	116	107	167	146	163	163	175
Total	193	217	207	261	256	267	270	306
INJURY AND F	Poisoning-N	Nonfatal						
Male	1,150	1,114	1,122	1,119	1,098	1,167	1,176	1,082
Female	387	364	345	366	352	394	406	446
Total	1,537	1,478	1,467	1,485	1,450	1,561	1,582	1,528
MOTOR VEHIC	CLE ACCIDE	NTS						
Male	437	322	371	438	495	579	602	593
Female	234	212	197	262	334	354	387	514
Total	671	534	568	700	829	933	989	1,107
SUBSTANCE/I	Drug A bus	E						
Male	221	220	232	334	313	388	474	464
Female	230	230	258	359	389	480	557	566
Total	451	450	490	693	702	868	1,031	1,030
SUICIDE ATTE	MPTS							
Male	110	95	112	116	111	97	128	132
Female	239	198	170	189	184	212	216	241
Total	349	293	282	305	295	309	344	373

RATE OF HOSPITAL ADMISSIONS AGE 15-19

	1991	1992	1993	1994	1995	1996	1997	1998
ALL CAUSES P	ER 1,000							
Male	NA	23.8	25.3	24.5	21.5	21.9	21.9	20.9
Female	NA	104.7	109.7	107.9	104.2	102.8	100.8	102.3
Total	NA	63.1	66.5	65.3	61.8	59.9	59.2	59.4
ABUSE AND N	EGLECT per	100,000						
Male		0.7	0.0	0.0	0.0	0.6	1.2	0.0
Female		0.8	0.8	2.3	0.7	1.4	4.7	2.6
Total		0.7	0.4	1.1	0.4	1.0	2.8	1.2
A MBULATORY	CARE SENS	SITIVE CONDI	TIONS per 1	00,000				
Male		232.0	251.7	230.6	288.2	220.7	235.5	199.0
Female		465.0	497.6	474.6	474.3	408.0	365.5	375.9
Total		345.1	371.8	349.9	379.0	308.8	296.9	282.7
ASTHMA per 1	00,00							
Male		62.3	71.1	50.0	63.1	52.7	70.1	40.5
Female		108.0	140.2	117.1	125.9	90.4	81.7	70.3
Total		84.5	104.9	82.8	93.8	70.5	75.6	54.6
DIABETES per	100,000							
Male	NA	71.4	76.5	70.2	77.1	63.8	64.1	75.8
Female	NA	87.0	85.7	130.4	107.5	112.5	109.1	112.8
Total	NA	79.0	81.0	99.6	92.0	86.7	85.4	93.3
INJURY AND P	oisoning-N	-	100,000					
Male		788.0	858.3	835.1	770.0	715.5	704.7	626.0
Female		273.0	276.5	285.7	259.2	272.0	271.8	287.6
Total		538.0	574.1	566.6	520.8	506.9	500.2	466.0
MOTOR VEHIC	LE ACCIDEN	тs per 100	,000					
Male		227.8	283.8	326.9	347.1	355.0	360.8	343.1
Female		159.0	157.9	204.5	246.0	244.4	259.1	331.4
Total		194.4	222.3	267.1	297.8	303.0	312.7	337.6
SUBSTANCE/D	RUG ABUSE	e per 100,00	00					
Male		155.6	177.5	249.3	219.5	237.9	284.0	268.4
Female		172.5	206.7	280.2	286.5	331.4	372.9	365.0
Total		163.8	191.8	264.4	252.2	281.8	326.0	314.1
SUICIDE ATTE	MPTS per 1	00,000						
Male		67.2	85.7	86.6	77.8	59.5	76.7	76.4
Female		148.5	136.2	147.5	135.5	146.3	144.6	155.4
Total		106.7	110.4	116.4	106.0	100.3	108.8	113.7

APPENDIX G: REPORTED CASES OF CHILD ABUSE _____

Reported Cases of Child Abuse Age 0-17										
Total Cases	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Incoming Calls to CPS	37,928	39,548	45,390	48,283	45,031	31,809	57,018	51,782	49,672	46,082
Meets definition	22,939	24,070	28,380	30,249	28,863	28,254	28,577	38,229	38,381	32,631
Referred	NA	NA	NA	NA	NA	NA	67	168	176	153
Reports Valid for Investigation	22,939	24,070	28,380	30,249	28,863	28,254	28,510	38,061	38,205	32,478
Investigated by CPS	20,029	21,343	24,889	27,062	26,564	25,963	27,019	32,103	32,957	26,423
Assessed by Family Builders	NA	2,004	6,055							
% Investigated by CPS	88.7%	87.7%	89.5%	91.8%	92.2%	91.9%	94.8%	84.3%	86.3%	81.4%
% Assessed by Family Builders	NA	5.2%	18.6%							
% Total responses	88.7%	87.7%	89.5%	91.8%	92.2%	91.9%	94.8%	84.3%	91.5%	100.0%
Valid Finding of Maltreatment	NA	NA	NA	NA	NA	NA	9,280	14,394	8756.0%	3,629
Rates per 100	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Reported	3.8	3.8	4.3	4.4	4.0	2.7	4.7	4.2	4.0	3.6
Appropriate for investigation	2.3	2.3	2.7	2.8	2.6	2.4	2.4	3.1	3.0	2.5
Investigated	2.0	2.1	2.4	2.5	2.4	2.2	2.2	2.6	2.6	2.1
Substantiated		0.0	0.0	0.0	0.0	0.0	0.8	1.2	0.0	0.3
Population	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Population 0-17	1,005,998	1,029,121	1,056,994	1,096,712	1,122,977	1,176,987	1,202,062	1,230,750	1,255,731	1,281,260

APPENDIX H: MORTALITY STATISTICS FOR CHILDREN -

Number of Deaths Age 1-14

	1991	1992	1993	1994	1995	1996	1997	1998
ALL CAUSES								
Total	267	288	336	316	318	304	319	305
Male	151	180	198	184	192	178	179	180
Female	116	108	138	132	126	126	140	125
Urban	180	190	221	228	222	210	229	235
Rural	78	98	115	88	65	73	61	49
ABUSE AND N	NEGLECT AGE	0-14						
Total	16	38	28	30	34	27	20	28
UNINTENTION	IAL INJURY							
Total	125	125	144	127	161	140	145	12
Male	69	80	91	75	99	83	91	79
Female	56	45	53	52	62	57	54	46
Urban	NA	16	92	88	89	92	105	93
Rural	NA	109	52	39	72	48	28	23
MOTOR VEHIC	CLE ACCIDEN	TS						
Total	65	67	67	57	81	82	81	64
Male	NA	40	36	37	41	47	49	37
Female	NA	27	31	20	40	35	32	27
Urban	NA	9	37	36	45	50	55	46
Rural	NA	58	30	21	36	32	21	12
SUICIDE -AGE	≣ 10-14							
Male	NA	9	7	8	4	6	4	10
Female	NA	1	4	1	7	1	3	2
Total	NA	10	11	9	11	7	7	12
MURDER/HO	MICIDE MORT	ALITY						
Total	9	25	23	22	26	26	13	25
Males	NA	19	14	11	18	13	8	14
Females	NA	6	9	11	8	13	5	11
Urban	NA	17	20	19	26	16	11	19
Rural	NA	8	3	3	0	7	0	4

MORTALITY RATE AGE 1-14 per 100,000

	1991	1992	1993	1994	1995	1996	1997	1998
ALL CAUSES	PER 1,000							
Total	33.3	35.0	39.3	35.9	35.9	32.2	33.1	31.0
Male	36.8	42.8	45.3	40.9	42.4	35.8	35.3	34.9
Female	29.6	26.9	33.0	30.6	29.1	28.3	30.6	26.7
Urban	29.2	30.0	33.3	31.9	31.0	27.3	29.0	29.2
Rural	43.2	51.5	60.3	53.1	38.4	42.1	34.6	27.4
ABUSE AND N	leglect per	100,000 A	SE 0-14					
Total	1.9	4.3	3.0	3.2	3.6	2.7	1.9	2.6
UNINTENTION	AL INJURY P	ER 100,000						
Total	15.6	15.2	16.8	14.4	18.2	14.8	15.0	12.7
Male	16.8	19.0	20.8	16.7	21.9	16.7	17.9	15.3
Female	14.3	11.2	12.7	12.1	14.3	12.8	11.8	9.8
Urban	13.6	12.2	13.9	12.3	15.1	12.0	13.3	11.6
Rural	22.1	24.2	27.3	23.5	23.6	23.1	15.9	12.8
MOTOR VEHIC	CLE ACCIDEN	тs per 100,	000					
Total	8.1	8.1	7.8	6.5	9.1	8.7	8.4	6.5
Male	7.6	9.5	8.2	8.2	9.0	9.5	9.7	7.2
Female	8.7	6.7	7.4	4.6	9.2	7.9	7.0	5.8
Urban	6.2	6.2	5.6	5.0	7.5	6.5	7.0	5.7
Rural	14.6	14.7	15.7	12.7	12.4	16.1	11.9	6.7
SUICIDE -AGE	€ 10-14 per 1	00,000						
Total	NA	3.7	3.9	3.1	3.5	2.2	2.1	3.5
Male	NA	6.5	4.9	5.4	2.4	3.5	2.2	5.5
Female	NA	0.8	2.9	0.7	4.8	0.7	1.9	1.2
Murder/ Ho	MICIDE							
Total	1.1	3.0	2.7	2.5	2.9	2.8	1.3	2.5
Male	0.5	4.5	3.2	2.4	4.0	2.6	1.6	2.7
Female	1.8	1.5	2.2	2.6	1.8	2.9	1.1	2.3
Urban	8.0	2.7	3.0	2.7	3.6	2.1	1.4	2.4
Rural	3.9	4.2	1.6	1.8	0.0	4.0	0.0	2.2

NUMBER OF DEATHS AGE 15-19

	1991	1992	1993	1994	1995	1996	1997	1998
ALL CAUSES								
Total	260	236	299	303	363	353	326	298
Male	192	179	224	223	292	266	247	214
Female	68	57	75	80	71	87	79	84
Urban	189	173	202	226	253	232	216	216
Rural	71	63	97	77	73	86	71	57
UNINTENTIONA	L INJURY							
Total	108	107	125	115	147	142	114	131
Male	76	77	87	82	111	101	82	88
Female	32	30	38	33	36	41	32	43
Urban ¹⁷	NA	77	76	78	94	84	68	86
Rural	NA	30	49	37	39	51	36	36
MOTOR VEHIC	LE ACCIDEN	TS						
Total	83	73	98	94	114	114	86	106
Male	NA	46	66	63	82	78	59	71
Female	NA	27	32	31	32	36	27	35
Urban	NA	54	60	66	61	69	51	70
Rural	NA	19	38	28	53	45	28	28
SUICIDE								
Total	NA	34	58	62	52	56	75	50
Male	NA	32	48	55	47	51	63	44
Female	NA	2	10	7	5	5	12	6
MURDER/HOM	ICIDE MORT	ALITY						
Total	51	51	61	73	93	75	60	55
Males	NA	45	49	63	81	68	50	42
Females	NA	6	12	10	12	7	10	13
Urban	NA	43	52	60	85	57	49	47
Rural	NA	8	9	13	8	12	9	5

¹⁷County was unknown in nine deaths and could not be classified urban or rural.

MORTALITY RATE AGE 15-19 PER 100,000

	1991	1992	1993	1994	1995	1996	1997	1998
ALL CAUSES	PER 1,000							
Total	97.0	85.9	117.0	115.6	130.4	114.6	103.1	90.9
Male	139.3	126.6	171.4	166.4	204.8	163.1	148.0	123.8
Female	52.3	42.7	60.1	62.4	52.3	60.1	52.9	54.2
Urban	91.4	81.6	103.7	108.1	114.2	93.3	84.5	81.4
Rural	116.2	100.5	159.6	145.2	128.2	145.1	117.0	91.1
UNINTENTION	NAL INJURY P	ER 100,000						
Total	40.3	39.0	48.9	43.9	52.8	46.1	35.7	39.9
Male	55.1	54.5	66.6	61.2	77.9	61.9	48.5	50.9
Female	24.6	22.5	30.5	25.8	26.5	28.3	21.4	27.7
Urban	35.8	36.3	39.0	37.3	42.4	33.8	26.6	32.4
Rural	55.6	47.9	80.6	69.8	68.5	86.0	59.3	57.6
MOTOR VEHI	CLE ACCIDEN	тs per 100	,000					
Total	31.0	26.6	38.4	35.9	40.9	37.0	27.2	32.3
Male	41.3	32.5	50.5	47.0	57.5	47.8	35.4	41.1
Female	20.6	20.3	25.6	24.2	23.6	24.9	18.1	22.6
Urban	27.6	25.5	30.8	31.6	32.5	27.8	20.0	26.4
Rural	42.5	30.3	62.5	52.8	50.9	66.8	46.1	44.8
SUICIDE								
Total	NA	12.4	22.7	23.7	18.7	18.2	23.7	15.2
Male	NA	22.6	36.7	41.0	33.0	31.3	37.8	25.5
Female	NA	1.5	8.0	5.5	3.7	3.5	8.0	3.9
Urban	16.0	10.9	20.0	20.6	15.8	16.5	21.9	14.7
Rural	26.2	17.6	31.3	35.8	17.6	16.7	18.1	14.4
MURDER/HO	MICIDE							
Total	19.0	18.6	23.9	27.9	33.4	24.4	19.0	16.8
Male	30.5	31.8	37.5	47.0	56.8	41.7	30.0	24.3
Female	6.9	4.5	9.6	7.8	8.8	4.8	6.7	8.4
Urban	22.2	20.3	26.7	28.7	38.4	22.9	19.2	17.7
Rural	8.2	12.8	14.8	24.5	14.1	20.2	14.8	8.0

	Substance Use By Elementary School Students											
Used Ever in Life				Used in Past Month				Used in Past Week				
Substance	1991	1993	1995	1997	1991	1993	1995	1997	1991	1993	1995	1997
Cigarettes	17.2%	18.4%	16.6%	18.3%	NA	NA	NA	5.7%	NA	NA	NA	4.5%
Smokeless Tobacco	5.8%	9.8%	5.3%	6.0%	NA	NA	NA	2.6%	NA	NA	NA	2.2%
Alcohol	39.0%	30.5%	29.2%	19.9%	3.5%	10.4%	10.6%	6.0%	NA	5.5%	6.8%	4.2%
Marijuana	1.7%	3.1%	5.6%	8.2%	0.3%	1.8%	3.2%	4.0%	NA	0.8%	2.3%	3.2%
Cocaine	0.7%	1.4%	2.0%	3.5%	0.2%	0.4%	1.6%	1.9%	NA	0.3%	1.0%	1.6%
Meth/amphetamines	1.0%	1.3%	2.1%	2.8%	0.1%	0.8%	1.6%	1.4%	NA	0.6%	1.3%	1.4%
Depressants	NA	NA	NA	2.3%	NA	NA	NA	1.3%	NA	NA	NA	1.2%
Inhalants	5.9%	7.3%	6.8%	10.4%	0.9%	3.3%	3.4%	4.9%	NA	1.9%	2.6%	4.1%
Hallucinogens	1.2%	1.6%	1.4%	2.6%	0.3%	0.9%	1.0%	1.5%	NA	0.6%	1.0%	1.2%
Narocotics	NA	NA	NA	2.2%	NA	NA	NA	1.0%	NA	NA	NA	1.1%
Steroids	NA	NA	NA	2.2%	NA	NA	NA	1.2%	NA	NA	NA	1.1%

	Substance Use By Junior High/Middle School Students												
Used Ever in Life						Used in Pa	ast Month		Used in Past Week				
Substance	1991	1993	1995	1997	1991	1993	1995	1997	1991	1993	1995	1997	
Cigarettes	NA	NA	NA	45.9%	18.1%	17.3%	17.0%	18.7%	NA	NA	NA	12.6%	
Smokeless Tobacco	NA	NA	NA	10.9%	5.9%	7.5%	7.1%	3.4%	NA	NA	NA	2.4%	
Alcohol	49.5%	46.1%	46.2%	54.9%	21.4%	20.0%	20.2%	23.7%	NA	13.1%	19.4%	12.5%	
Marijuana	12.3%	19.1%	19.1%	25.8%	5.0%	9.4%	9.0%	13.6%	NA	8.1%	8.5%	9.6%	
Cocaine	3.7%	5.2%	6.3%	6.1%	1.8%	2.6%	3.0%	2.9%	NA	2.6%	3.3%	2.1%	
Meth/amphetamines	4.1%	5.7%	7.9%	5.8%	2.3%	2.4%	3.8%	2.6%	NA	2.5%	3.4%	1.8%	
Depressants	11.0%	11.2%	11.0%	6.3%	NA	NA	NA	3.0%	NA	NA	NA	2.1%	
Inhalants	14.8%	18.6%	17.5%	21.1%	7.2%	7.3%	7.6%	8.6%	NA	5.7%	6.1%	5.8%	
Hallucinogens	4.7%	6.4%	7.5%	6.7%	2.5%	3.6%	3.8%	3.0%	NA	3.3%	3.4%	1.8%	
Narocotics	6.1%	6.3%	6.0%	5.8%	NA	NA	NA	2.8%	NA	NA	NA	2.0%	
Steroids	NA	2.8%	3.2%	3.6%	NA	NA	NA	1.8%	NA	NA	NA	1.6%	

	Substance Use By High School Students												
	er in Life			Used in Past Month				Used in Past Week					
Substance	1991	1993	1995	1997	1991	1993	1995	1997	1991	1993	1995	1997	
Cigarettes	NA	NA	NA	62.7%	26.6%	23.3%	27.4%	31.3%	NA	NA	NA	25.3%	
Smokeless Tobacco	NA	NA	NA	24.0%	9.3%	9.2%	9.6%	6.5%	NA	NA	NA	4.8%	
Alcohol	74.9%	67.1%	68.8%	74.2%	42.8%	34.5%	37.7%	43.4%	NA	21.9%	23.8%	23.7%	
Marijuana	33.5%	36.9%	44.1%	47.4%	12.7%	17.1%	21.8%	25.1%	NA	12.8%	16.8%	17.5%	
Cocaine	9.4%	8.4%	10.7%	11.6%	3.3%	3.1%	4.5%	3.8%	NA	2.9%	4.5%	2.2%	
Meth/amphetamines	10.2%	10.1%	15.7%	16.8%	3.5%	3.7%	5.8%	6.6%	NA	3.1%	4.2%	4.1%	
Depressants	14.9%	11.4%	14.4%	11.2%	NA	NA	NA	4.9%	NA	NA	NA	3.1%	
Inhalants	15.9%	19.1%	19.2%	25.1%	4.2%	5.1%	6.3%	5.5%	NA	4.0%	4.8%	3.2%	
Hallucinogens	12.7%	10.5%	15.9%	18.1%	5.2%	3.7%	6.7%	6.4%	NA	3.1%	5.2%	3.3%	
Narocotics	9.7%	7.8%	10.7%	10.5%	NA	NA	NA	4.6%	NA	NA	NA	3.0%	
Steroids	na	3.3%	2.8%	2.6%	NA	NA	NA	1.4%	NA	NA	NA	1.2%	

NUMBER OF REPORTED CASES Age 0-14

	1991	1992	1993	1994	1995	1996	1997	1998
Chlamydia								
Male	54	42	49	40	28	19	26	32
Female	273	211	239	275	235	213	199	220
Total	327	253	288	315	263	232	225	252
Genital Herp	es							
Male	NA	NA	NA	NA	NA	NA	1	2
Female	NA	NA	NA	NA	NA	NA	12	12
Total	NA	NA	NA	NA	NA	NA	13	14
Gonorrhea								
Male	18	19	9	10	10	11	2	6
Female	66	46	52	53	47	69	37	36
Total	84	65	61	63	57	79	39	42
Syphilis, Ear	·ly							
Male	0	0	0	0	0	0	2	0
Female	0	0	1	0	0	0	2	0
Total	0	0	1	0	0	0	4	0
		REPORT	ED CASES	PER 100,0	000 Age 0	-14		
	1991	1992	1993	1994	1995	1996	1997	1998
	1331	.002						1000
Chlamydia	1331	1002	1000		1000		1001	1000
Chlamydia Male	12.4	9.4	10.4	8.2	5.7	3.6	4.8	5.8
Male	12.4	9.4	10.4	8.2	5.7	3.6	4.8	5.8
Male Female Total	12.4 65.3 38.2	9.4 49.2	10.4 52.8	8.2 59.1	5.7 50.3	3.6 44.4	4.8 40.4	5.8 43.6
Male Female	12.4 65.3 38.2	9.4 49.2	10.4 52.8	8.2 59.1	5.7 50.3	3.6 44.4	4.8 40.4	5.8 43.6
Male Female Total Genital Herp Male	12.4 65.3 38.2	9.4 49.2 28.9	10.4 52.8 31.1	8.2 59.1 33.1	5.7 50.3 27.5	3.6 44.4 22.9	4.8 40.4 21.7	5.8 43.6 23.8
Male Female Total Genital Herp	12.4 65.3 38.2 es	9.4 49.2 28.9 NA	10.4 52.8 31.1 NA	8.2 59.1 33.1 NA	5.7 50.3 27.5	3.6 44.4 22.9 NA	4.8 40.4 21.7	5.8 43.6 23.8
Male Female Total Genital Herp Male Female	12.4 65.3 38.2 es NA NA	9.4 49.2 28.9 NA NA	10.4 52.8 31.1 NA	8.2 59.1 33.1 NA NA	5.7 50.3 27.5 NA NA	3.6 44.4 22.9 NA NA	4.8 40.4 21.7 0.2 2.2	5.8 43.6 23.8 0.4 2.4
Male Female Total Genital Herp Male Female Total	12.4 65.3 38.2 es NA NA	9.4 49.2 28.9 NA NA NA	10.4 52.8 31.1 NA NA NA	8.2 59.1 33.1 NA NA NA	5.7 50.3 27.5 NA NA NA	3.6 44.4 22.9 NA NA NA	4.8 40.4 21.7 0.2 2.2	5.8 43.6 23.8 0.4 2.4 1.3
Male Female Total Genital Herp Male Female Total Gonorrhea	12.4 65.3 38.2 es NA NA NA	9.4 49.2 28.9 NA NA	10.4 52.8 31.1 NA	8.2 59.1 33.1 NA NA	5.7 50.3 27.5 NA NA	3.6 44.4 22.9 NA NA	4.8 40.4 21.7 0.2 2.2 1.3	5.8 43.6 23.8 0.4 2.4
Male Female Total Genital Herp Male Female Total Gonorrhea Male	12.4 65.3 38.2 es NA NA NA	9.4 49.2 28.9 NA NA NA	10.4 52.8 31.1 NA NA NA	8.2 59.1 33.1 NA NA NA	5.7 50.3 27.5 NA NA NA	3.6 44.4 22.9 NA NA NA	4.8 40.4 21.7 0.2 2.2 1.3	5.8 43.6 23.8 0.4 2.4 1.3
Male Female Total Genital Herp Male Female Total Gonorrhea Male Female	12.4 65.3 38.2 es NA NA NA 4.1 15.8 9.8	9.4 49.2 28.9 NA NA NA 4.2 10.7	10.4 52.8 31.1 NA NA NA	8.2 59.1 33.1 NA NA NA 2.1 11.4	5.7 50.3 27.5 NA NA NA 2.0 10.1	3.6 44.4 22.9 NA NA NA 2.1 14.4	4.8 40.4 21.7 0.2 2.2 1.3 0.4 7.5	5.8 43.6 23.8 0.4 2.4 1.3
Male Female Total Genital Herp Male Female Total Gonorrhea Male Female Female Total	12.4 65.3 38.2 es NA NA NA 4.1 15.8 9.8	9.4 49.2 28.9 NA NA NA 4.2 10.7	10.4 52.8 31.1 NA NA NA	8.2 59.1 33.1 NA NA NA 2.1 11.4	5.7 50.3 27.5 NA NA NA 2.0 10.1	3.6 44.4 22.9 NA NA NA 2.1 14.4	4.8 40.4 21.7 0.2 2.2 1.3 0.4 7.5	5.8 43.6 23.8 0.4 2.4 1.3
Male Female Total Genital Herp Male Female Total Gonorrhea Male Female Total Syphilis, Ear	12.4 65.3 38.2 es NA NA NA 4.1 15.8 9.8	9.4 49.2 28.9 NA NA NA 4.2 10.7 7.4	10.4 52.8 31.1 NA NA NA 1.9 11.5 6.6	8.2 59.1 33.1 NA NA NA 2.1 11.4 6.6	5.7 50.3 27.5 NA NA NA 2.0 10.1 6.0	3.6 44.4 22.9 NA NA NA 2.1 14.4 7.8	4.8 40.4 21.7 0.2 2.2 1.3 0.4 7.5 3.8	5.8 43.6 23.8 0.4 2.4 1.3 1.1 7.1 4.0

NUMBER OF REPORTED CASES AGE 15-19

	1991	1992	1993	1994	1995	1996	1997	1998
Chlamydia								
Male	408	315	388	383	435	515	550	682
Female	3,497	3,064	3,305	2,936	3,187	3,357	3,472	3,624
Total	3,905	3,379	3,693	3,319	3,622	3,872	4,022	4,306
Genital Herp	es							
Male	NA	NA	NA	NA	NA	NA	24.0	19.0
Female	NA	NA	NA	NA	NA	NA	176.0	115.0
Total	NA	NA	NA	NA	NA	NA	200.0	134.0
Gonorrhea								
Male	630	446	401	358	310	304	278	324
Female	741	659	613	611	544	574	522	551
Total	1,371	1,105	1,014	969	854	878	800	875
Syphilis, Ea	rly							
Male	16	16	6	6	3	10	4	9
Female	47	23	15	6	7	18	13	15
Total	63	39	21	12	10	28	17	24.00
		REPORT	TED CASES	PER 100,	000 A GE 1	15-19		
	1991	1992	1993	1994	1995	1996	1997	1998
Chlamydia								
Male	NA	222.8	296.8	285.8	305.0	315.7	329.6	394.6
Female	NA	2,297.9	2,648.4	2,291.7	2,347.0	2,317.4	2,324.2	2,336.8
Total	NA	1,230.1	1,445.3	1,266.3	1,301.0	1,257.3	1,271.7	1,313.1
Genital Herp		,	,	,	,	,	,	,
Male	NA	NA	NA	NA	NA	NA	14.4	11.0
Female	NA	NA	NA	NA	NA	NA	117.8	74.2
Total	NA	NA	NA	NA	NA	NA	63.2	40.9
Gonorrhea								
Male	NA	315.5	306.8	267.2	217.4	186.4	166.6	187.5
Female	NA	494.2	491.2	476.9	400.6	396.2	349.4	355.3
Total	NA	402.3	396.9	369.7	306.8	285.1	253.0	266.8
Syphilis, Ea	rly							
Male	NA	11.3	4.6	4.5	2.1	6.1	2.4	5.2
Female	NA	17.2	12.0	4.7	5.2	12.4	8.7	9.7
Total	NA	14.2	8.2	4.6	3.6	9.1	5.4	7.3

VITAL STATISTICS

Arizona Health Status and Vital Statistics is compiled every year by the ADHS Bureau of Public Health Statistics. This document contains birth and death statistics, reported diseases, and data on birth outcomes such as complications in labor and delivery, preterm delivery rates and low birth weight rates, as well as information on certain maternal risk factors and prenatal care. Statistics are presented by various racial and ethnic groups as well as by county. In addition to published data, birth and death certificates were analyzed to evaluate periods of perinatal risk.

The major strength of vital statistics data is that they are comprehensive population-based statewide data, and therefore there are sufficient cases to break the data down by geographic region, ethnicity, or other subcategories and retain reliability. Some weaknesses have been noted with birth data as it relates to identifying risk factors and some diagnostic information because short hospital stays make it difficult to identify conditions before mothers and babies are discharged. Some problems may not emerge until after hospital discharge, such as certain complications or birth defects.

HOSPITAL DISCHARGE DATA BASE

Hospital discharge data identify those health threats which are sufficiently serious to result in a child being admitted to the hospital as an inpatient. Discharge data are useful both to identify major health issues and to monitor progress in combating morbidity associated with specific diseases and conditions. These data are population based for acute-care non-Federal and non-IHS hospitals. A weakness of this source is that the population served by certain military facilities, the state mental hospital and IHS facilities are not represented in the database. While this is a rich source of data, there are problems with coding that have lead to problems with reliability of data.

CHILDREN 2000 SURVEY

A telephone survey was conducted in the Spring of 2000 to learn about aspects of health which are not available through any other source. Several offices within the Bureau of Community and Family Health - Office of Women's and Children's Health, Office of Children with Special Health Care Needs, Office of Nutrition, Office of Oral Health - collaborated to develop a questionnaire. The final questionnaire contained over 100 items covering topics such as health status, chronic conditions and special health care needs, health service utilization (including preventive care), barriers to health care, unmet need and health insurance. Whenever possible questions were used which had been previously validated through other research and had points of comparison with other populations. In addition a battery of questions was developed to measure the components of a medical home which had not been previously validated.

A random digit dialing methodology was used to identify households containing at least one Arizona resident under the age of 21. When more than one household member met the criteria for inclusion, a subject was randomly selected from among qualifying members and the caregiver of that child was interviewed. During analysis, results were weighted to compensate for the lower likelihood that a child in a larger family would be selected as the subject of an interview. (For example, an only child would have a one in one chance of being selected as the interview subject, while in a family with five children a child would have a one in five chance of being selected.) Overall, data were

collected on 764 children under the age of 21. Estimates reported from these data should tolerate no more than 3.6 percent sampling error for the group as a whole at a 95 percent confidence level. A major strength of this survey is that it is virtually the only way to discover unmet need and is important in understanding how consumers experience health care. This survey provides data on services which are not tracked in any other database.

A weakness of any telephone survey is that it is biased against children living in households with no telephones. They are likely to be in the lowest income categories. Estimates of unmet need and barriers to care may understate the actual burden felt by these families. In addition, there may be a social acceptance bias in responses. Respondents may not want to reveal things to an interviewer that are unpleasant or embarrassing. Finally, these data are expensive to obtain compared to other data sources which restricts the number of cases that can be examined and limits the potential for subgroup comparisons and cross-tabulations.

BEHAVIOR RISK FACTOR SURVEY

The Behavior Risk Factor Survey (BRFS) is a random-digit dialed telephone survey of health risk behaviors administered in all 50 states and the District of Columbia. The survey is designed through a cooperative agreement between the Centers for Disease Control and the ADHS. The survey is broken into three sections: The first section contains questions on health-risk behaviors, the second section contains demographic information and the third section contains optional modules. A sample of nearly 2,000 interviews over a 12 month period is selected to achieve a sampling error of no more than three percent at a 95 percent confidence level for risk factor prevalence estimates of the adult population. The strength of the survey is that data is population based and allows state and national comparisons. Since it is done annually, it is possible to generate historical trends. It is likely that the survey overestimates socially desirable behaviors and underestimates socially unacceptable behavior. In addition, households without telephones are not captured by the survey.

HEALTH SYSTEM DEVELOPMENT DATABASE

The ADHS Bureau of Health Systems maintains a database based on primary care areas. This database contains information on population size, geographic area, demographics, and on primary and specialty health care providers. Analysis of these data allows an evaluation of under-served areas and provides a picture of resource distribution among the population.

MONITORING AND MEASURING COMMUNITY-BASED INTEGRATED SYSTEMS

The Office for Children with Special Health Care Needs (OCSHCN) has been working with researchers from Utah State University, Early Intervention Research Institute, since February 1999 on the federally funded Monitoring and Measuring Community-based Integrated Systems for CSHCN (M&M) Project. At that time, a team composed of parents, data analysis professionals, and representatives from government health, education and social service agencies, community-based organizations, and advocacy groups was formed to work on assessing need and measuring progress.

Since the initial meeting, the team has worked on a variety of projects. In December 1999, the group met to review the findings of a survey on policy issues that affect the delivery of services to CSHCN. The survey tool addressed policies identified by team members, in six core areas (service delivery, transitions, integrative medicine, family participation, financial resources, education of families and professionals, cultural

competence). Respondents were asked to score each of 55 items for the following: passion for the issue; ease of resolution; impact on families; causes worry; and causes frustration.

In June 2000 the team convened to work on indicators for six Performance and Outcome Measures. The group reviewed indicators that had been developed by select team members from the various states participating in the project. Following vigorous discussion, five indicators for each measure were selected using a consensus process.

COMMUNITY NEEDS ASSESSMENT

In 1993 the Office of Children with Special Health Care Needs (OCSHCN) started a series of Community Needs Assessments in Arizona. The Community Needs Assessment covers populations located in the border area with Mexico, tribal reservations, urban, and rural communities. Four major sources of data were used to carry out the community needs assessment. The first source consisted of all previously collected relevant data. This information was initially analyzed to estimate the minimum number of persons and area in need of services. Databases used included those measuring children with special health care needs (CSHCN), and number of children in Children's Rehabilitation Services (CRS). New primary data were compiled from three additional sources: a Family Survey completed by 481 members of 11 different communities, family forums and Key Informant Interviews.

FAMILY SURVEY

A questionnaire was designed to assess the attitude, beliefs and behavior of the families and children with special health care needs. The instrument was divided into sections covering demographic data, medical conditions, supplemental services, special equipment, care arrangement, child's ability to function in several areas, and the impact of the child's condition on family functioning. Eleven communities were selected based on self-selection or community needs determined by secondary data. The survey sampled one percent of families who have at least one child with special health care needs. The OCSHCN identified one contact person in each community and the contact person recruited their interviewers and defined the geographic boundary of their community.

FAMILY FORUM AND KEY INFORMANT INTERVIEWS

There was a total of five to six sessions of family forum and key informant interviews. Each session had between four and 30 participants per community. The family forum was for families with CSHCN to identify strengths and barriers to the current system, and to develop a work plan to eliminate the barriers and build the strengths.

The family forum had four main areas of interest: medical and dental issues, education issues, social services issues, and public health issues. Availability, accessibility, affordability, quality and coordination of the services for CSHCN within each area was examined. Although the information obtained from the forum varied from community to community, there are similarities between geographic areas.

The key informant interviews were conducted with providers to identify the strengths and weakness of the current system. Key informants were selected from public health, medical care, education, business, community leaders, elected officials, social service providers, and advocacy groups. The three main issues address by the key informants were the need for parenting classes, the lack of local resources and funds for services, and language barriers with their clients.

